



SERVICE MANUAL

4-CHANNEL/2-CHANNEL AMPLIFIER
SANSUI QA-5000
QA-6000



Sansui

SANSUI ELECTRIC CO., LTD.

1. SPECIFICATIONS

1-1. QA-5000

AUDIO SECTION

POWER OUTPUT

10watts per channel, min. RMS, four channels driven into 8 ohms from 40Hz to 20KHz, with no more than 0.8% total harmonic distortion.

Music power (IHF).....70W (8 ohms 1,000Hz)
65W (8 ohms 1,000Hz)

Continuous RMS power output per channel
four channels driven12W (8 ohms 1,000Hz)

BTL connection14W (8 ohms 1,000Hz)

LOAD IMPEDANCE

POWER BANDWIDTH

40 to 20,000Hz
at or below rated min.
RMS power output and
total harmonic distortion

TOTAL HARMONIC DISTORTION

OVERALL (from AUX)....less than 0.8%
at or below rated min.
RMS power output

INTERMODULATION DISTORTION

(70Hz : 7000Hz=4:1 SMPTE method)

OVERALL (from AUX)....less than 0.8%
at rated min. RMS power
output

FREQUENCY RESPONSE (at 1 Watt power output)

OVERALL (from AUX)....30 to 30,000Hz ± 1 dB

EQUALIZATION (RIAA curve)

30 to 15,000Hz ± 1.0 dB

DAMPING FACTOR40 (8 ohms)

CHANNEL SEPARATION (at 1,000Hz)

PHONObetter than 45dB

TUNER, AUX, TAPEbetter than 45dB

HUM AND NOISE (IHF)

PHONObetter than 65dB

TUNER, AUX, TAPEbetter than 70dB

INPUT SENSITIVITY AND IMPEDANCE (1,000Hz for rated power output)

PHONO2.5mV 50K Ω

(Max. input capability; more than 100mV at 0.5%
distortion)

TUNER, AUX150mV 50K Ω

TAPE PLAY Pin Jacks150mV 50K Ω

TAPE REC/PLAY DIN Socket
.....150mV 50K Ω

RECORDING OUTPUT

TAPE REC Pin Jack150mV

TAPE REC/PLAY DIN Socket
.....30mV

TONE CONTROLS

BASS+12dB, -12dB at 50Hz

TREBLE+12dB, -12dB at 10,000Hz

LOUDNESS+8dB at 50Hz

+3dB at 10,000Hz

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| | | | 7-2. QA-6000 | | back cover |

1-2. QA-6000

AUDIO SECTION

POWER OUTPUT

18watts per channel, min. RMS, four channels driven into 8 ohms from 20Hz to 20KHz, with no more than 0.5% total harmonic distortion.

Music power (IHF) 120W (4 ohms 1,000Hz)
 100W (8 ohms 1,000Hz)
 150W (8 ohms 1,000Hz)
 BTL connection 150W (8 ohms 1,000Hz)
 Continuous RMS power output
 each channel driven 25W/ch. (8 ohms 1,000Hz)
 BTL connection 50W/ch. (8 ohms 1,000Hz)
 four channels driven 22W×4 (8 ohms 1,000Hz)
 BTL connection 45W×2 (8 ohms 1,000Hz)
 BTL connection 40W×2 (8 ohms 20~20,000Hz)

LOAD IMPEDANCE

8 ohms
 POWER BANDWIDTH 20 to 20,000Hz
 at or below rated min.
 RMS power output and
 total harmonic distortion

TOTAL HARMONIC DISTORTION

OVERALL (from AUX)....less than 0.5%
 at or below rated min.
 RMS power output

INTERMODULATION DISTORTION

(70Hz:7,000Hz=4:1 SMPTE method)

OVERALL (from AUX)....less than 0.5%
 at rated min. RMS power
 output

FREQUENCY RESPONSE (at 1 Watt power output)

OVERALL (from AUX)....20 to 40,000Hz ± 1 dB

EQUALIZATION (RIAA curve)

..... 30 to 15,000Hz ± 0.5 dB

DAMPING FACTOR

..... 50 (8 ohms)

CHANNEL SEPARATION (at 1,000Hz)

PHONO better than 45dB

TUNER, AUX, TAPE better than 50dB

HUM AND NOISE (IHF)

PHONO better than 65dB

TUNER, AUX, TAPE better than 70dB

INPUT SENSITIVITY AND IMPEDANCE (1,000Hz for rated power output)

PHONO 2.5mV 50K Ω
 (Max. input capability; more than 270mV at 0.5%
 distortion)

TUNER, AUX 100mV 50K Ω

TAPE PLAY Pin Jacks 100mV 50K Ω

TAPE REC/PLAY DIN Socket

..... 100mV 50K Ω

RECORDING OUTPUT

TAPE REC Pin Jacks 100mV

TAPE REC/PLAY DIN Socket

..... 30mV

SWITCHES AND CONTROLS

BASS +12dB, -12dB at 50Hz

TREBLE +12dB, -12dB at 15,000Hz

LOUDNESS +8dB at 50Hz

..... +3dB at 10,000Hz

LOW FILTER -3dB at 70Hz (6dB/oct)

HIGH FILTER..... -3dB at 7,000Hz (6dB/oct)

1-3. QA-5000, QA-6000

4-CHANNEL DECODER SECTION

QS DECODER (TYPE-A QS VARIO MATRIX*)

SEPARATION 20dB between adjacent
 channels
 30dB between diagonal
 channels
 DISTORTION less than 0.1% at 1,000Hz
 FREQUENCY RESPONSE 20 to 30,000Hz
 QS SYNTHESIZER (TYPE-A QS VARIO MATRIX)
 SEPARATION Equivalent to QS DECODER
 DISTORTION Equivalent to QS DECODER
 FREQUENCY RESPONSE Equivalent to QS DECODER

SQ FUNCTION (PHASE MATRIX**)
 SEPARATION 20dB (LF-RF)
 12dB (CF-CB)

CD-4 DEMODULATOR

SEPARATION (STD test signal at 1,000Hz)
 45dB (L-R)
 25dB (F-B)

FREQUENCY RESPONSE (STD test signal at REC OUT)
 30 to 15,000Hz MAIN-CH.

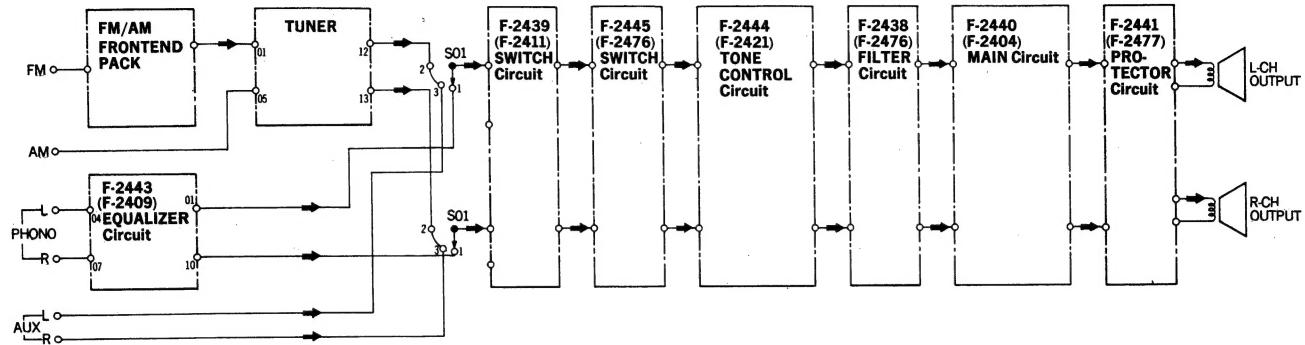
*U.S. Patent No. 3825684

**U.S. Patent No. 3783192

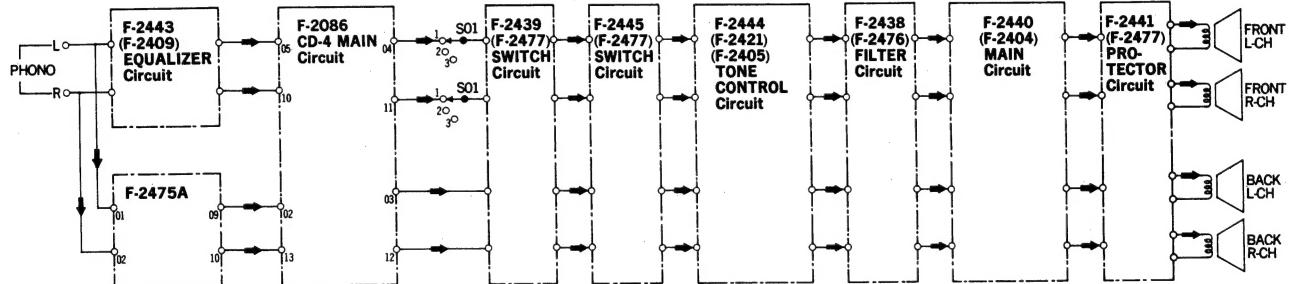
* Design and specifications subject to change without notice for
 improvements.

2. BLOCK DIAGRAM (QA-5000, QA-6000)

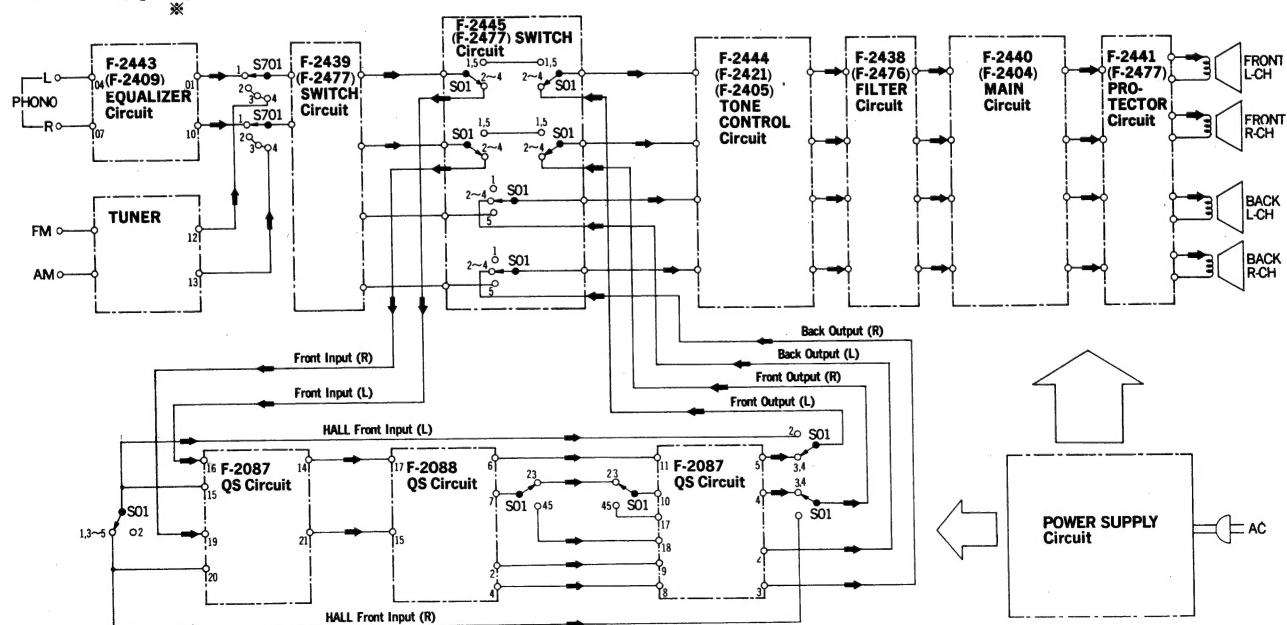
2-CH DIRECT OPERATIVE BLOCK DIAGRAM



CD-4/4-CH DIRECT OPERATIVE BLOCK DIAGRAM



SYNTHESIZER, QS, SQ, OPERATIVE BLOCK DIAGRAM



S701: SELECTOR

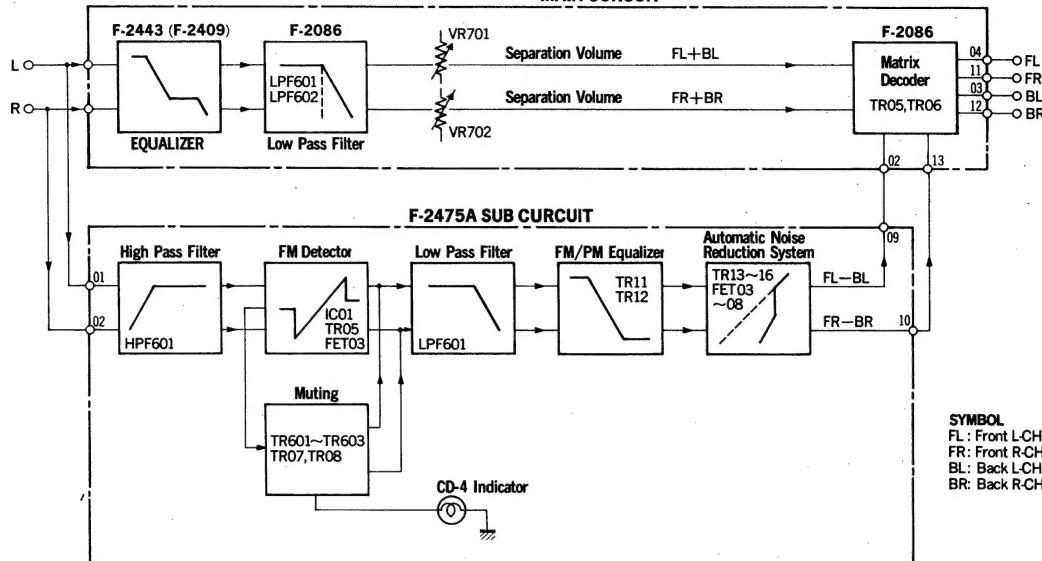
1. PHONO
2. FM AUTO
3. FM MONO (FM MUT. OFF)
4. AM

S01: FUNCTION

1. 2-CH
2. SYNTHESIZER SURROUND
3. SYNTHESIZER HALL
4. QS
5. SQ
6. CD-4/DIRECT

*SQ is a trade mark of CBS, INC"

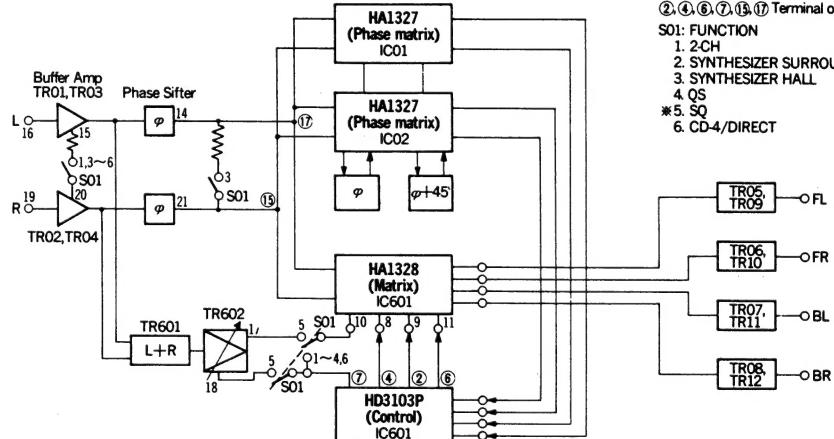
* F-number described in parentheses
() means the name of Printed Circuit Board used in QA-5000.

CD-4/4-CH DIRECT BLOCK DIAGRAM
MAIN CIRCUIT


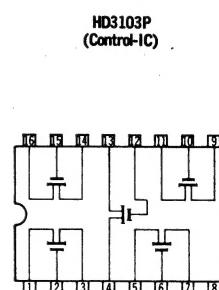
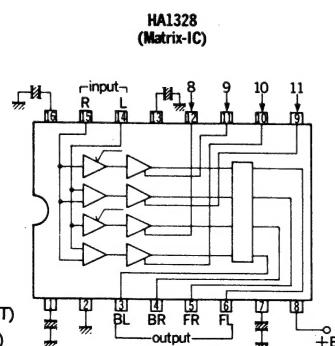
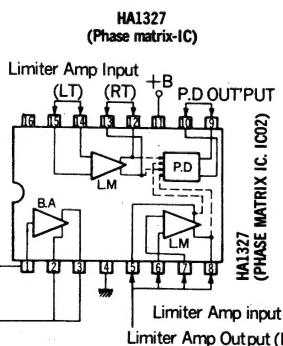
SYMBOL
 FL: Front L-CH
 FR: Front R-CH
 BL: Back L-CH
 BR: Back R-CH

SYNTHESIZER, QS, SQ BLOCK DIAGRAM

※



SYMBOL
 8, 9, 10, 11, 14, 16, 17, 18, 19, 21, } Terminal on F-2087
 2, 4, 6, 7, 10, 11, 17, } Terminal on F-2088
 S01: FUNCTION
 1. 2-CH
 2. SYNTHESIZER SURROUND
 3. SYNTHESIZER HALL
 4. QS
 *5. SQ
 6. CD-4/DIRECT



SYMBOL
 LM: Limiter
 P.D: Phase Discriminator
 BA: Buffer Amp

3. ALIGNMENT AND ADJUSTMENT

3-1. Regulated Supply Voltage Adjustment (QA-5000, QA-6000)

Note: 1. Master Volume Minimum
 2. Check volt AC power line

| STEP | SUBJECT | EQUIPMENT | MEASURE OUTPUT | | ADJUST | | ADJUST FOR |
|------|--------------------------|---------------|--|--|--------------------------------------|----------------------------|------------|
| | | | QA-5000 | QA-6000 | QA-5000 | OA-6000 | |
| 1 | Supply voltage to 4-CH | DC Volt Meter | Terminal of 01 on F-2477 (Fig. 3-1) | Lead Colour of Red on F-2479 (Fig. 3-3) | VR01 on F-2477 (Top Side) (Fig. 3-4) | VR601 no F-2459 (Fig. 3-3) | • 25V |
| 2 | Supply voltage to B.T.L. | DC Volt Meter | Collector of TR10 on F-2405 (Fig. 3-4) | Test Point of Bottom side on F-2445 (Fig. 3-2) | VR02 on F-2477 (Fig. 3-4) | VR602 on F-2459 (Fig. 3-3) | • 0V |

Fig. 3-1

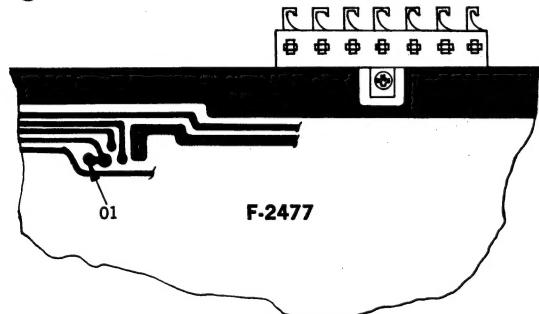


Fig. 3-3

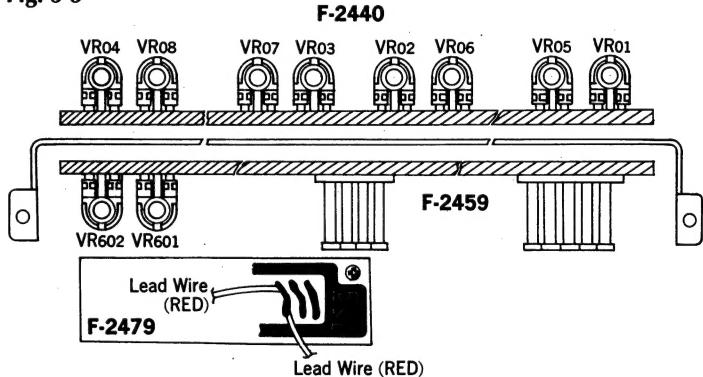


Fig. 3-2

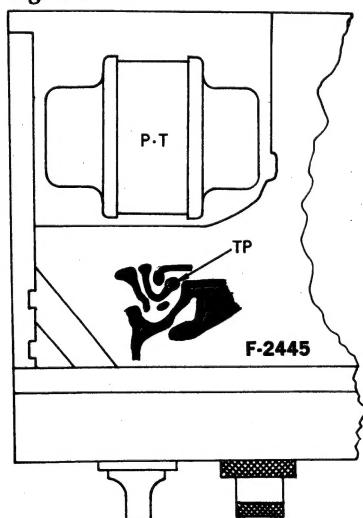
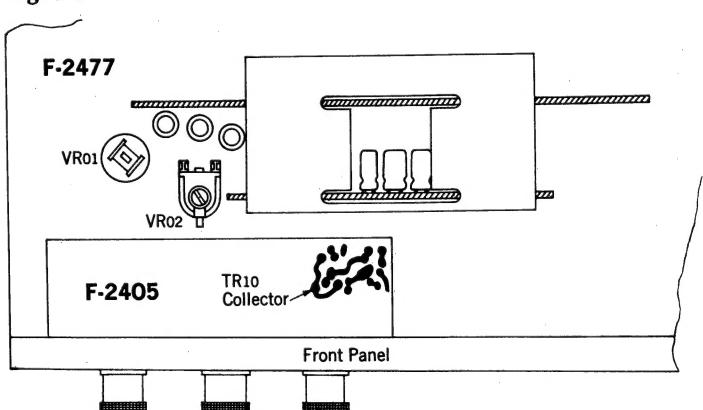


Fig. 3-4



3-2. Driver Circuit Board Adjustment (QA-6000 Only)

Note:

1. Master VolumeMinimum
2. Make the SP terminals free (no load).
3. For adjustment, run the unit for more than 3 minutes after the power is switched on.

| STEP | SUBJECT | EQUIPMENT | MEASURE OUTPUT | ADJUST | ADJUST FOR | CONDITION |
|------|----------------------------|--------------------|--|------------------------------|------------|--|
| 1. | DC 0V Front L-CH | DC Volt meter | Speaker terminal Front L-CH (Fig. 3-5) | F-2440 VR01 (Fig. 3-7) | 0V | Turn all volumes, VR05, 06, 07, 08 counterclockwise fully |
| 2. | Front R-CH | DC Volt meter | Speaker terminal Front R-CH (Fig. 3-5) | F-2440 VR02 (Fig. 3-7) | 0V | |
| 3. | DC 0V Back L-CH | DC Volt meter | Speaker terminal Back L-CH (Fig. 3-5) | F-2440 VR03 (Fig. 3-7) | 0V | |
| 4. | DC 0V Back R-CH | DC Volt meter | Speaker terminal Back R-CH (Fig. 3-5) | F-2440 VR04 (Fig. 3-7) | 0V | |
| 5. | Bias Current Front L-CH | DC milliammeter | F-2441 F01 (Fig. 3-6) | F-2440 VR05 (Fig. 3-7) | 27mA | Step down meter's range accordingly. |
| 6. | Bias Current Front R-CH | DC milliammeter | F-2441 F02 (Fig. 3-6) | F-2440 VR06 (Fig. 3-7) | 27mA | |
| 7. | Bias Current Back L-CH | DC milliammeter | F-2441 F03 (Fig. 3-6) | F-2440 VR07 (Fig. 3-7) | 27mA | |
| 8. | Bias Current Back R-CH | DC milliammeter | F-2441 F04 (Fig. 3-6) | F-2440 VR08 (Fig. 3-7) | 27mA | |

Fig. 3-5

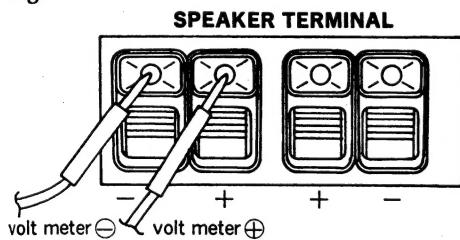


Fig. 3-6

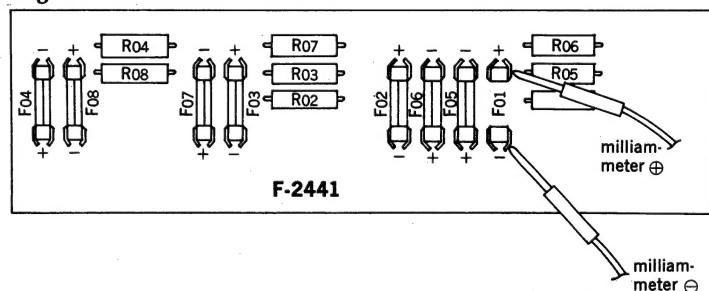
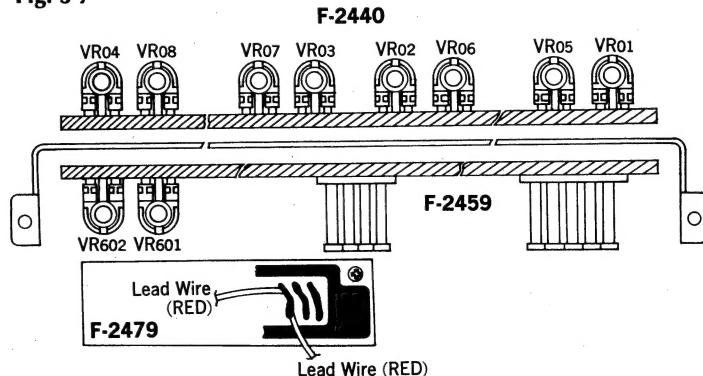
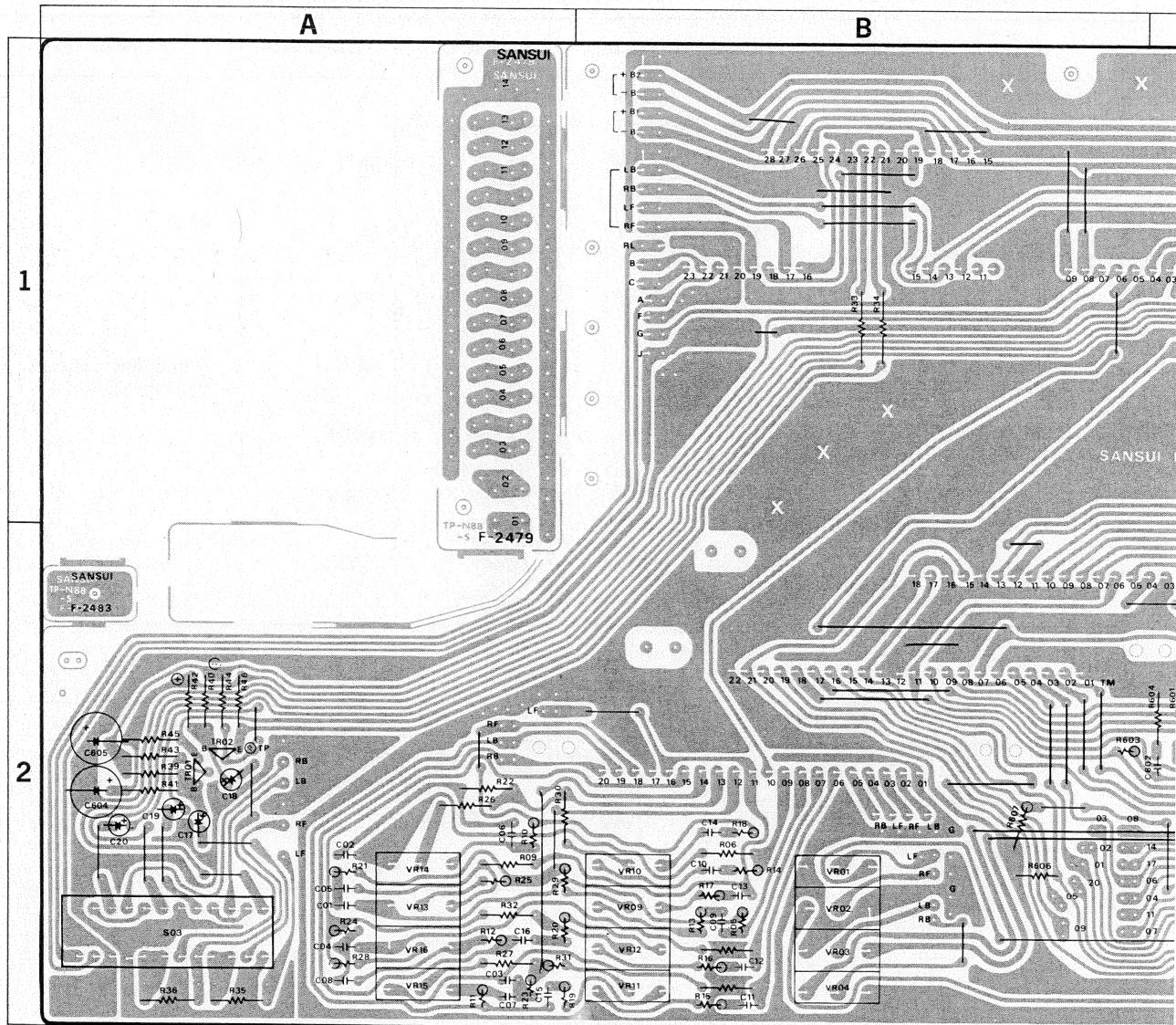


Fig. 3-7



4. PARTS LOCATION AND PARTS LIST

4-1. F-2445 Mother Circuit Board (Stock No. 7592330 Complete Circuit Board F-2445) Conductor Side (QA-6000)

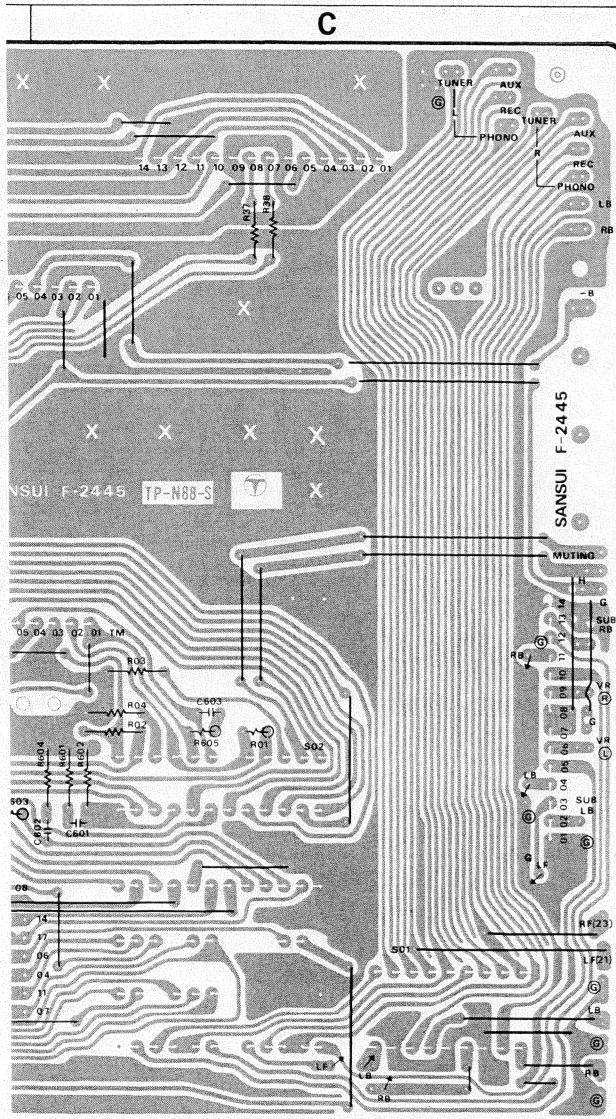


Parts List

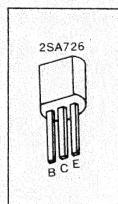
| Parts No. | Stock No. | Description | Position |
|-----------|------------|--|----------|
| TR01, 02 | 0300410, 1 | 2SA726 (F, G) Transistor | 2 A |
| VR01~04 | 1060350, 1 | 250k Ω (MN) \times 4 Balance VR | 2 B |
| VR09~12 | 1060430, 1 | 100k Ω (B) \times 4 Treble VR | 2 B |
| VR13~16 | 1060430, 1 | 100k Ω (B) \times 4 Bass VR | 2 A |
| S01 | 1102610, 1 | SRE-2-5-3 Selector Switch | 2 C |
| S02 | 1106140, 1 | SRE-6-22-5 Decoder Mode Switch | 2 C |
| S03 | 1102620, 1 | SRE-2-9-2 Power Amplifier Switch | 2 A |
| C01, 02 | 0600567 | 0.056 μ F | 2 A |
| C03, 04 | 0600567 | 0.056 μ F | 2 A |
| C05, 06 | 0600567 | 0.056 μ F | 2 A |
| C07, 08 | 0600567 | 0.056 μ F | 2 A |

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|---------------------|----------|
| C09, 10 | 0601476 | 0.0047 μ F | 2 B |
| C11, 12 | 0601476 | 0.0047 μ F | 2 B |
| C13, 14 | 0601476 | 0.0047 μ F | 2 B |
| C15, 16 | 0601476 | 0.0047 μ F | 2 A |
| C17, 18 | 0519102 | 3.3 μ F | 2 A |
| C19, 20 | 0519102 | 3.3 μ F | 2 A |
| C601 | 0600157 | 0.015 μ F | 2 C |
| C602 | 0600227 | 0.022 μ F | 2 C |
| C603 | 0600567 | 0.056 μ F | 2 C |
| C604 | 0513470 | 47 μ F 25V E.C. | 2 A |
| C605 | 0511470 | 47 μ F 10V E.C. | 2 A |
| C606 | 0657473 | 0.047 μ F | 2 A |
| C607 | 0657473 | 0.047 μ F | 2 A |

| | | |
|----------------------|--|--|
| Abbreviations | C.R. : Carbon Resistor S.R. : Solid Resistor Ce.R. : Cement Resistor M.R. : Metallized Film Resistor M.C. : Mylar Capacitor E.C. : Electrolytic Capacitor | B.P.E.C. : Bi-Polar Electrolytic Capacitor C.C. : Ceramic capacitor M.C. : Mica Capacitor O.C. : Oil Capacitor P.C. : Polystyrene Capacitor T.C. : Tantalum Capacitor |
|----------------------|--|--|

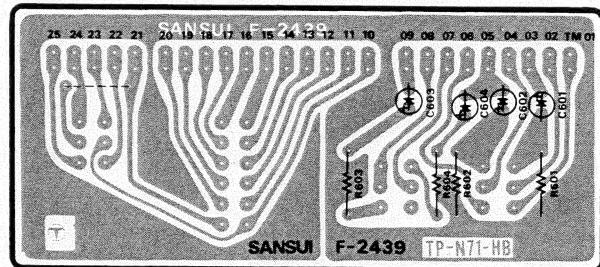


| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------|--------------------|
| R25, 26 | 0106272 | 2.7kΩ | 2 A |
| R27, 28 | 0106272 | 2.7kΩ | 2 A |
| R29, 30 | 0106221 | 220Ω | 2 A |
| R31, 32 | 0106221 | 220Ω | 1/4 W C.R. (E.L.R) |
| R33, 34 | 0106222 | 2.2kΩ | 2 A |
| R35, 36 | 0106102 | 1kΩ | 2 A |
| R37, 38 | 0106222 | 2.2kΩ | 1 C |
| R39, 40 | 0107224 | 220kΩ | 2 A |
| R41, 42 | 0107823 | 82kΩ | 2 A |
| R43, 44 | 0107392 | 3.9kΩ | 1/4 W C.R. |
| R45, 46 | 0107392 | 3.9kΩ | 2 A |
| R601 | 0107681 | 680Ω | 2 C |
| R602 | 0107152 | 1.5kΩ | 2 C |
| R603 | 0106563 | 56kΩ | 1/4 W C.R. (E.L.R) |
| R604 | 0107471 | 470Ω | 1/4 W C.R. |
| R605 | 0106121 | 120Ω | 2 C |
| R606 | 0106154 | 150kΩ | 1/4 W C.R. (E.L.R) |
| R607 | 0106154 | 150kΩ | 2 B |



4-2. F-2439 Switch Circuit Board

(Stock No. 7592310 Complete Circuit Board F-2439)
Conductor Side (QA-6000)

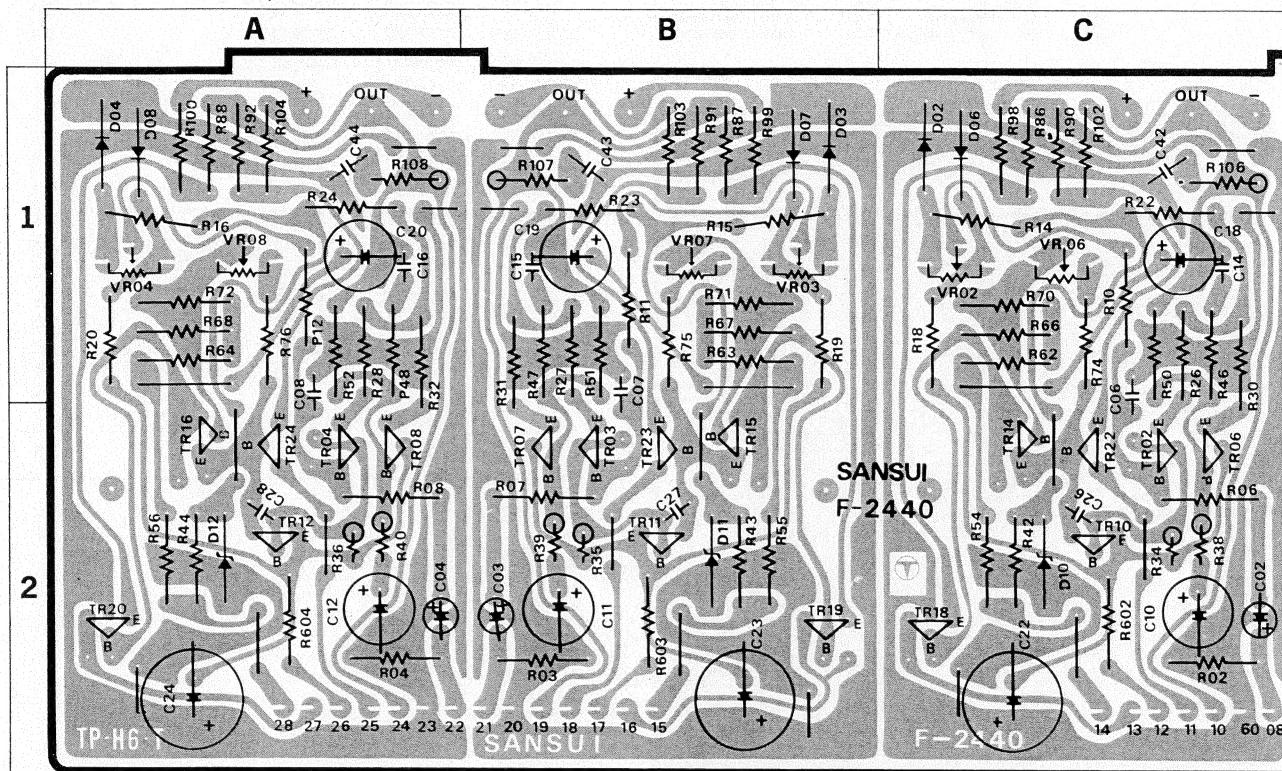


Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------|------------------------|
| R01 | 0106563 | 56kΩ | 1/4 W C.R. (E.L.R) 2 C |
| R02 | 0107563 | 56kΩ | 2 C |
| R03, 04 | 0107182 | 1.8kΩ | 1/4 W C.R. 2 C |
| R05, 06 | 0106103 | 10kΩ | 2 C |
| R07, 08 | 0106103 | 10kΩ | |
| R09, 10 | 0106103 | 10kΩ | 2 A |
| R11, 12 | 0106103 | 10kΩ | 2 A |
| R13, 14 | 0106182 | 1.8kΩ | 2 B |
| R15, 16 | 0106182 | 1.8kΩ | 1/4 W C.R. (E.L.R) 2 B |
| R17, 18 | 0106272 | 2.7kΩ | 2 B |
| R19, 20 | 0106272 | 2.7kΩ | 2 A |
| R21, 22 | 0106102 | 1kΩ | 2 A |
| R23, 24 | 0106102 | 1kΩ | 2 A |

| Parts No. | Stock No. | Description |
|-----------|-----------|----------------------------------|
| C601 | 0519001 | 10μF |
| C602 | 0519001 | 10μF |
| C603 | 0519001 | 10μF |
| C604 | 0519001 | 10μF |
| R601 | 0107563 | 56kΩ |
| R602 | 0107563 | 56kΩ |
| R603 | 0107392 | 3.9kΩ |
| R604 | 0107562 | 5.6kΩ |
| | 1170350 | SX-15-6, 2-CH TAPE |
| | 1170370 | SX-15-8, 4-CH TAPE |
| | 1131030 | SUB-24 (2 stage), HALL, SURROUND |

4-3. F-2440 Driver Circuit Board (Stock No. 7571030 Complete Circuit Board F-2440) Conductor Side (QA-6000)

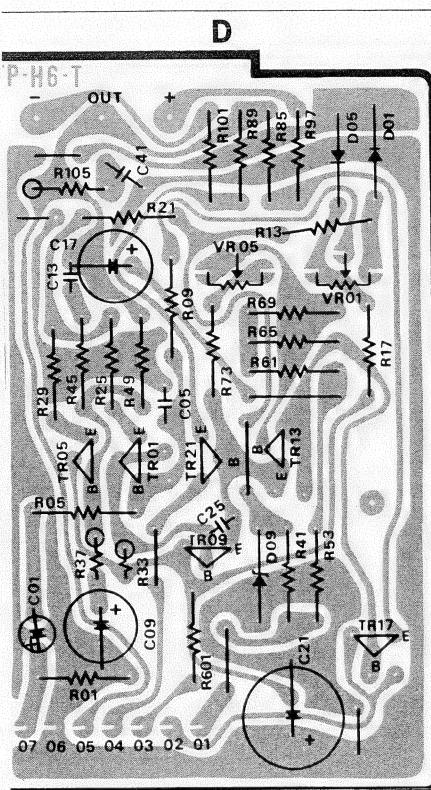


Parts List

| Parts No. | Stock No. | Description | Position |
|------------|------------|----------------|----------|
| TR01 | 0300303, 5 | 2SA640 (K, L) | 2 D |
| TR02 | 0300303, 5 | 2SA640 (K, L) | 2 C |
| TR03 | 0300303, 5 | 2SA640 (K, L) | 2 B |
| TR04 | 0300303, 5 | 2SA640 (K, L) | 2 A |
| TR05 | 0300303, 5 | 2SA640 (K, L) | 2 D |
| TR06 | 0300303, 5 | 2SA640 (K, L) | 2 C |
| TR07 | 0300303, 5 | 2SA640 (K, L) | 2 B |
| TR08 | 0300303, 5 | 2SA640 (K, L) | 2 A |
| TR09 | 0305901, 2 | 2SC1124 (2, 3) | 2 D |
| TR10 | 0305901, 2 | 2SC1124 (2, 3) | 2 C |
| TR11 | 0305901, 2 | 2SC1124 (2, 3) | 2 B |
| TR12 | 0305901, 2 | 2SC1124 (2, 3) | 2 A |
| TR13 | 0305121, 2 | 2SC281 (B, C) | 2 D |
| TR14 | 0305121, 2 | 2SC281 (B, C) | 2 C |
| TR15 | 0305121, 2 | 2SC281 (B, C) | 2 B |
| TR16 | 0305121, 2 | 2SC281 (B, C) | 2 A |
| TR17 | 0305901, 2 | 2SC1124 (2, 3) | 2 D |
| TR18 | 0305901, 2 | 2SC1124 (2, 3) | 2 C |
| TR19 | 0305901, 2 | 2SC1124 (2, 3) | 2 B |
| TR20 | 0305901, 2 | 2SC1124 (2, 3) | 2 A |
| TR21 | 0300381, 2 | 2SA706 (2, 3) | 2 D |
| TR22 | 0300381, 2 | 2SA706 (2, 3) | 2 C |
| TR23 | 0300381, 2 | 2SA706 (2, 3) | 2 B |
| TR24 | 0300381, 2 | 2SA706 (2, 3) | 2 A |
| Transistor | | | |
| D01 | 0311160 | 1S2473D | 1 D |
| D02 | 0311160 | 1S2473D | 1 C |
| D03 | 0311160 | 1S2473D | 1 B |
| D04 | 0311160 | 1S2473D | 1 A |
| Diode | | | |

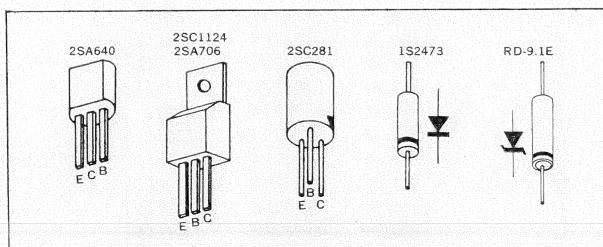
| Parts No. | Stock No. | Description | Position |
|-----------|---|-----------------|-----------|
| D05 | 0311160 | 1S2473D | 1 D |
| D06 | 0311160 | 1S2473D | 1 C |
| D07 | 0311160 | 1S2473D | 1 B |
| D08 | 0311160 | 1S2473D | 1 A |
| D09 | { 0316230 RD-9.1E (C) ar or 0316240 RD-9.1E (B) | | 2 D |
| D10 | { 0316230 RD-9.1E (C) or or 0316240 RD-9.1E (B) | Zener Diode | 2 C |
| D11 | { 0316230 RD-9.1E (C) ar or 0316240 RD-9.1E (B) | | 2 B |
| D12 | { 0316230 RD-9.1E (C) ar or 0316240 RD-9.1E (B) | | 2 A |
| VR01 | 1031470 | 5k Ω (B) | 1 D |
| VR02 | 1031470 | 5k Ω (B) | 1 C |
| VR03 | 1031470 | 5k Ω (B) | 1 B |
| VR04 | 1031470 | 5k Ω (B) | 1 A |
| VR05 | 1031440 | 1k Ω (B) | 1 D |
| VR06 | 1031440 | 1k Ω (B) | 1 C |
| VR07 | 1031440 | 1k Ω (B) | 1 B |
| VR08 | 1031440 | 1k Ω (B) | 1 A |
| C01, 02 | 0519103 | 0.47 μ F | 1 D . 2 C |
| C03, 04 | 0519103 | 0.47 μ F | 2 B . 2 A |

4-4. F-2444 Tone Control Circuit Board (Stock No. 7560940 Complete Circuit Board F-2444) Conductor Side (QA-6000)



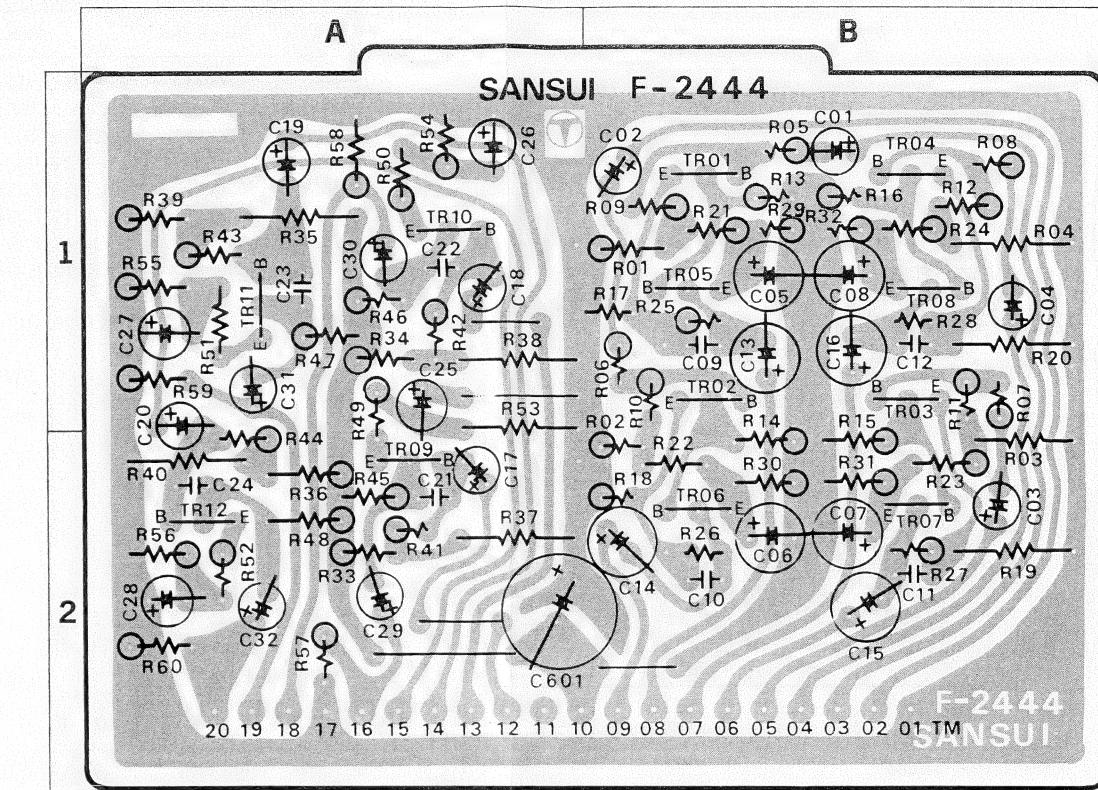
| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------|-----------|
| R29, 30 | 0107100 | 10Ω | 1,2D.1,2C |
| R31, 32 | 0107100 | 10Ω | 12C.1A |
| R33, 34 | 0107152 | 1.5kΩ | 2D.2C |
| R35, 36 | 0107152 | 1.5kΩ | 2B.2A |
| R37, 38 | 0106222 | 2.2kΩ | 2D.2C |
| R39, 40 | 0106222 | 2.2kΩ | 2B.2A |
| R41, 42 | 0107682 | 6.8kΩ | 2D.2C |
| R43, 44 | 0107682 | 6.8kΩ | 2B.2A |
| R45, 46 | 0107104 | 100kΩ | 1D.1C |
| R47, 48 | 0107104 | 100kΩ | 1B.1A |
| R49, 50 | 0107223 | 22kΩ | 1D.1C |
| R51, 52 | 0107223 | 22kΩ | 1B.1A |
| R53, 54 | 0107182 | 1.8kΩ | 2D.2C |
| R55, 56 | 0107182 | 1.8kΩ | 2B.2A |
| R61, 62 | 0107472 | 4.7kΩ | 1D.1C |
| R63, 64 | 0107472 | 4.7kΩ | 1B.1A |
| R65, 66 | 0107390 | 39Ω | 1D.1C |
| R67, 68 | 0107390 | 39Ω | 1B.1A |
| R69, 70 | 0107472 | 4.7kΩ | 1D.1C |
| R71, 72 | 0107472 | 4.7kΩ | 1B.1A |
| R73, 74 | 0107122 | 1.2kΩ | 1D.1C |
| R75, 76 | 0107122 | 1.2kΩ | 1B.1A |
| R85, 86 | 0107221 | 220Ω | 1D.1C |
| R87, 88 | 0104221 | 220Ω | 1B.1A |
| R89, 90 | 0107221 | 220Ω | 1D.1C |
| R91, 92 | 0107221 | 220Ω | 1B.1A |
| R97, 98 | 0107479 | 4.7Ω | 1D.1C |
| R99, 100 | 0107479 | 4.7Ω | 1B.1A |
| R101, 102 | 0107479 | 4.7Ω | 1D.1C |
| R103, 104 | 0107479 | 4.7Ω | 1B.1A |
| R105, 106 | 0104100 | 10Ω | 1D.1C |
| R107, 108 | 0104100 | 10Ω | 1B.1A |
| R601, 602 | 0107151 | 150Ω | 2D.2C |
| R603, 604 | 0107151 | 150Ω | 2B.2A |

| Parts No. | Stock No. | Description | | | Position |
|-----------|-----------|---------------|-----------------|------|------------|
| C05, 06 | 0661151 | 150pF | 50V | C.C. | 1,2,D.12,D |
| C07, 08 | 0661151 | 150pF | | | 1,2B.1,2A |
| C09, 10 | 0511221 | 220 μ F | | | 1D.2C |
| C11, 12 | 0511221 | 220 μ F | 10V | E.C. | 2B.2A |
| C13, 14 | 0661100 | 10pF | | | 1D.1C |
| C15, 16 | 0661100 | 10pF | 50V | C.C. | 1B.1A |
| C17, 18 | 0515330 | 33 μ F | | | 1D.1C |
| C19, 20 | 0515330 | 33 μ F | | | 1B.1A |
| C21, 22 | 0515101 | 100 μ F | 50V | E.C. | 1D.2C |
| C23, 24 | 0515101 | 100 μ F | | | 2B.2A |
| C25, 26 | 0661330 | 33pF | | | 1D.2C |
| C27, 28 | 0661330 | 33pF | | | 2B.2A |
| C33, 34 | 0660680 | 68pF | 50V | C.C. | |
| C35, 36 | 0660680 | 68pF | | | |
| R01, 02 | 0107104 | 100k Ω | | | 2D.2C |
| R03, 04 | 0107104 | 100k Ω | | | 2B.2A |
| R05, 06 | 0107222 | 2.2k Ω | | | 2D.2C |
| R07, 08 | 0107222 | 2.2k Ω | | | 2B.2A |
| R09, 10 | 0107104 | 100k Ω | | | 1D.1C |
| R11, 12 | 0107104 | 100k Ω | | | 1B.1A |
| R13, 14 | 0107223 | 22k Ω | | | 1D.1C |
| R15, 16 | 0107223 | 22k Ω | $\frac{1}{4}$ W | C.R. | 1B.1A |
| R17, 18 | 0107683 | 68k Ω | | | 1D.1C |
| R19, 20 | 0107683 | 68k Ω | | | 1B.1A |
| R21, 22 | 0107103 | 10k Ω | | | 1D.1C |
| R23, 24 | 0107103 | 10k Ω | | | 1B.1A |
| R25, 26 | 0107100 | 10 Ω | | | 1D.1C |
| R27, 28 | 0107100 | 10 Ω | | | 1B.1A |



Abbreviations

| | | | |
|--------------|-------------------------------|-----------------|-------------------------|
| C.R. | : Carbon Resistor | B.P.E.C. | : Bi-Polar Electrolytic |
| S.R. | : Solid Resistor | C.C. | : Ceramic Capacitor |
| Ce.R. | : Cement Resistor | Mi.C. | : Mica Capacitor |
| M.R. | : Metallized Film Resistor | O.C. | : Oil Capacitor |
| M.C. | : Mylar Capacitor | P.C. | : Polystyrene Capacitor |
| E.C. | : Electrolytic Capacitor | T.C. | : Tantalum Capacitor |



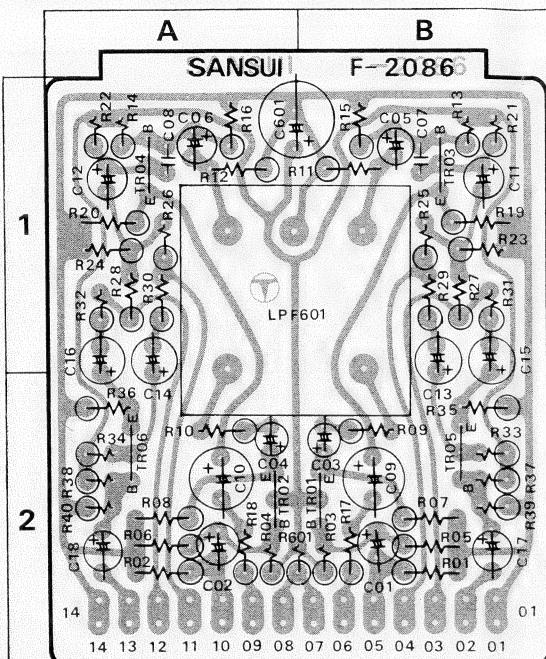
Parts List

| Parts No. | Stock No. | Description | | Position | Parts No. | Stock No. | Description | | Position |
|-----------|------------|---------------|--------------------|------------|-----------|-----------|---------------|--------------------|------------|
| TR01, 02 | 0300410, 1 | 2SA726(F, G) | Transistor | 1 B | R09, 10 | 0106394 | 390k Ω | 1 B | 1 B |
| TR03, 04 | 0300410, 1 | 2SA726(F, G) | | 1 B | R11, 12 | 0106394 | 390k Ω | | 1 B |
| TR05, 06 | 0306070, 1 | 2SC1313(F, G) | | 1 B. 2 B | R13, 14 | 0106224 | 220k Ω | 1/4 W C.R. | 1 B. 2 B |
| TR07, 08 | 0306070, 1 | 2SC1313(F, G) | | 2 B. 1 B | R15, 16 | 0106224 | 220k Ω | | 2 B. 1 B |
| TR09, 10 | 0300410, 1 | 2SA726(F, G) | | 2 A. 1 A | R17, 18 | 0106331 | 330 Ω | 1AB. 2 B | 1AB. 2 B |
| TR11, 12 | 0300410, 1 | 2SA726(F, G) | | 1 A. 2 A | R19, 20 | 0107331 | 330 Ω | 1/4 W C.R. | 2 B. 1 B |
| C01, 02 | 0573478 | 0.47 μ F | 25V T.C. | 1 B | R21, 22 | 0106564 | 560k Ω | | 1 B. 2 B |
| C03, 04 | 0573478 | 0.47 μ F | | 2 B. 1 B | R23, 24 | 0106564 | 650k Ω | 2 B. 1 B | 2 B. 1 B |
| C05, 06 | 0512470 | 47 μ F | 16V E.C. | 1 B. 2 B | R25, 26 | 0106152 | 1.5k Ω | | 1 B. 2 B |
| C07, 08 | 0512470 | 47 μ F | | 2 B. 1 B | R27, 28 | 0106152 | 1.5k Ω | 1/4 W C.R. (E.L.R) | 2 B. 1 B |
| C09, 10 | 0660100 | 10 pF | 50V C.C. | 1 B. 2 B | R29, 30 | 0106102 | 1k Ω | | 1 B. 2 B |
| C11, 12 | 0660100 | 10 pF | | 2 B. 1 B | R31, 32 | 0106102 | 1k Ω | 2 B. 1 B | 2 B. 1 B |
| C13, 14 | 0519471 | 4.7 μ F | 50V E.C. (BRN) | 1 B. 2 B | R33, 34 | 0106394 | 390k Ω | | 2 A. 1 A |
| C15, 16 | 0519471 | 4.7 μ F | | 2 B. 1 B | R35 | 0107394 | 390k Ω | 1/4 W C.R. | 1 A |
| C17, 18 | 0519101 | 1 μ F | 50V E.C. (BRN) | 2 A. 1 A | R36 | 0106394 | 390k Ω | 1/4 W C.R. (E.L.R) | 2 A |
| C19, 20 | 0519101 | 1 μ F | | 1 A. 1.2 A | R37, 38 | 0107333 | 33k Ω | 1/4 W C.R. | 2 A. 1 A |
| C21, 22 | 0660220 | 22 pF | 50V C.C. | 2 A. 1 A | R39 | 0106333 | 33k Ω | 1/4 W C.R. (E.L.R) | 1 A |
| C23, 24 | 0660220 | 22 pF | | 1 A. 2 A | R40 | 0107333 | 33k Ω | 1/4 W C.R. | 2 A |
| C25, 26 | 0512330 | 33 μ F | 16V E.C. | 1 A | R41, 42 | 0106394 | 390k Ω | 2 A. 1 A | 2 A. 1 A |
| C27, 28 | 0512330 | 33 μ F | | 1 A. 2 A | R43, 44 | 0106394 | 390k Ω | | 1 A. 1.2 A |
| C29, 30 | 0519101 | 1 μ F | 50V E.C. (BRN) | 2 A. 1 A | R45, 46 | 0106183 | 18k Ω | 1/4 W C.R. (E.L.R) | 2 A. 1 A |
| C31, 32 | 0519101 | 1 μ F | | 1 A. 2 A | R47, 48 | 0106183 | 18k Ω | | 1 A. 2 A |
| C601 | 0515470 | 47 μ F | 50V E.C. | 2 A. B | R49, 50 | 0106151 | 150 Ω | 150 Ω | 1 A |
| | | | | | R51, 52 | 0106151 | 150 Ω | | 1 A. 2 A |
| R01, 02 | 0106473 | 47k Ω | 1/4 W C.R. (E.L.R) | 1 B. 2 B | R53 | 0107102 | 1k Ω | 1/4 W C.R. | 1 A |
| R03, 04 | 0107473 | 47k Ω | 1/4 W C.R. | 2 B. 1 B | R54 | 0106102 | 1k Ω | 1k Ω | 1 A |
| R05, 06 | 0106122 | 1.2k Ω | 1/4 W C.R. (E.L.R) | 1 B | R55, 56 | 0106102 | 1k Ω | 1/4 W C.R. (E.L.R) | 1 A. 2 A |
| R07, 08 | 0106122 | 1.2k Ω | | 1 B | R57, 58 | 0106104 | 100k Ω | | 2 A. 1 A |
| | | | | | R59, 60 | 0106104 | 100k Ω | | 1 A. 2 A |

4-5. F-2086 CD-4 Main Circuit Board

(Stock No. 7650250 Complete Circuit Board F-2086)

Conductor Side (QA-5000, QA-6000)



Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|------------|---------------------------|-------------|
| TR01, 02 | 0306090, 1 | 2SC1312 (F, G) | 2 B. 2 A |
| TR03, 04 | 0306090, 1 | 2SC1312 (F, G) | 1 B. 1 A |
| TR05, 06 | 0306090, 1 | 2SC1312 (F, G) | 2 B. 2 A |
| LPF601 | 0910230 | VSL-200-3 Low Pass Filter | 2 A,B,1A,B |
| C01, 02 | 0515109 | 1μF 50V E.C. | 2 B. 2 A |
| C03, 04 | 0513479 | 4.7μF 25V E.C. | 2 B. 2 A |
| C05, 06 | 0515109 | 1μF 50V E.C. | 1 B. 1 A |
| C07, 08 | 0660330 | 33pF 50V C.C. | 1 B. 1 A |
| C09, 10 | 0510101 | 100μF 6.3V E.C. | 2 B. 2 A |
| C11, 12 | 0519105 | 2.2μF | 1 B. 1 A |
| C13, 14 | 0519102 | 3.3μF 50V E.C. (BRN) | 1,2 B,1,2 A |
| C15, 16 | 0519102 | 3.3μF 50V E.C. (BRN) | 1,2 B,1,2 A |
| C17, 18 | 0515109 | 1μF 50V E.C. | 2 B. 2 A |
| C601 | 0513101 | 100μF 25V E.C. | 1 A, B |
| R01, 02 | 0106474 | 470kΩ | 2 B. 2 A |
| R03, 04 | 0106274 | 270kΩ | 2 B. 2 A |
| R05, 06 | 0106274 | 270kΩ | 2 B. 2 A |
| R07, 08 | 0106332 | 3.3kΩ | 2 B. 2 A |
| R09, 10 | 0106472 | 4.7kΩ | 2 B. 2 A |
| R11, 12 | 0106472 | 4.7kΩ | 1 B. 1 A |
| R13, 14 | 0106274 | 270kΩ | 1 B. 1 A |
| R15, 16 | 0106823 | 82kΩ | 1 B. 1 A |
| R17, 18 | 0106271 | 270Ω | 2 B. 2 A |
| R19, 20 | 0106392 | 3.9kΩ | 1 B. 1 A |
| R21, 22 | 0106822 | 8.2kΩ | 1 B. 1 A |
| R23, 24 | 0106124 | 120kΩ | 1 B. 1 A |
| R25, 26 | 0106123 | 12kΩ | 1 B. 1 A |
| R27, 28 | 0106103 | 10kΩ | 1 B. 1 A |
| R29, 30 | 0106103 | 10kΩ | 1 B. 1 A |
| R31, 32 | 0106103 | 10kΩ | 1 B. 1 A |
| R33, 34 | 0106102 | 1kΩ | 2 B. 2 A |
| R35, 36 | 0106102 | 1kΩ | 2 B. 2 A |
| R37, 38 | 0106394 | 390kΩ | 2 B. 2 A |
| R39, 40 | 0106274 | 270kΩ | 2 B. 2 A |
| R601 | 0106151 | 150Ω | 2 A, B |

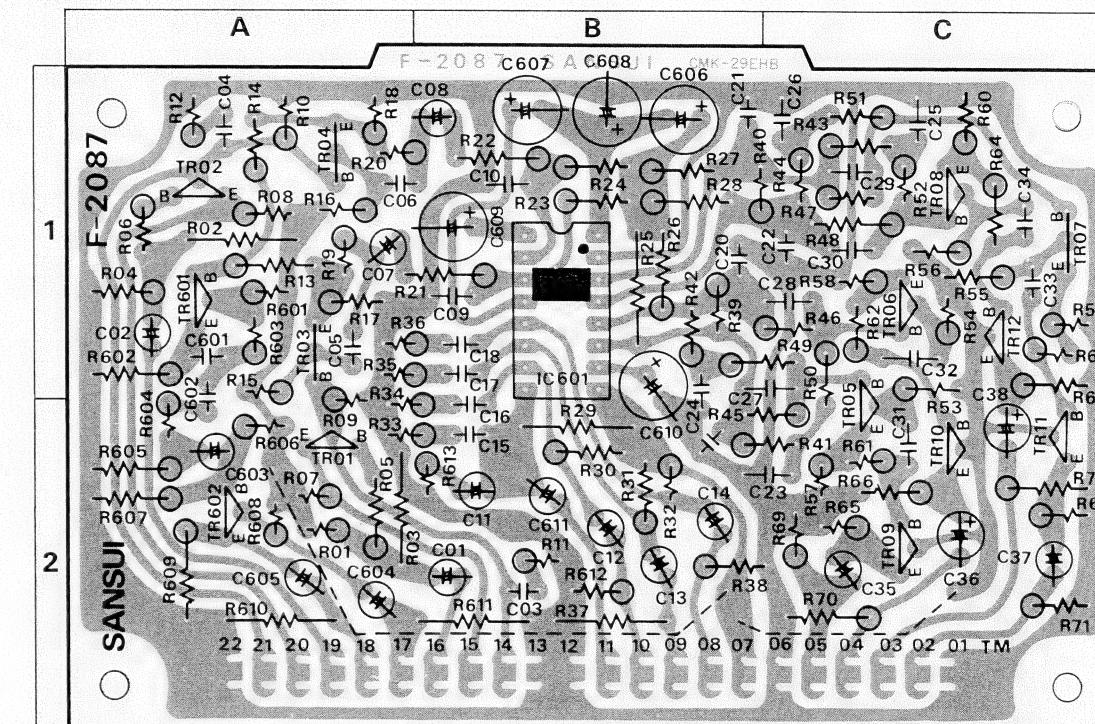
4-6. F-2087 QS Matrix Circuit Board

(Stock No. 7650260 Complete Circuit Board F-2087)

Parts List (QA-5000, QA-6000)

| Parts No. | Stock No. | Description | Position |
|-----------|------------|----------------------|---------------|
| TR01, 02 | 0300410, 1 | 2SA726 (F, G) | 2 A. 1 A |
| TR03, 04 | 0306090, 1 | 2SC1312 (F, G) | 1 A |
| TR05, 06 | 0306091 | 2SC1312 (G) | 1,2, C. 1 C |
| TR07, 08 | 0306091 | 2SC1312 (G) | 1 C |
| TR09, 10 | 0306090, 1 | 2SC1312 (F, G) | 2 C |
| TR11, 12 | 0306090, 1 | 2SC1312 (F, G) | 2 C. 1 C |
| TR601 | 0306090, 1 | 2SC1312 (F, G) | 1 A |
| TR602 | 0306090, 1 | 2SC1312 (F, G) | 2 A |
| IC601 | 0360210 | HA-1328 IC | 1 B |
| C01, 02 | 0515339 | 3.3μF 50V E.C. | 2 B. 1 A |
| C03, 04 | 0600686 | 0.0068μF 50V M.C. | 2 B. 1 A |
| C05, 06 | 0600107 | 0.01μF 50V M.C. | 1 A |
| C07, 08 | 0519101 | 1μF 50V E.C. | 1 A. 1 B |
| C09 | 0660151 | 150pF 50V C.C. | 1 B |
| C10 | 0660151 | 150pF 50V C.C. | 1 B |
| C11 | 0513100 | 10μF | 2 B |
| C12 | 0513100 | 10μF 25V E.C. | 2 B |
| C13 | 0513100 | 10μF | 2 B |
| C14 | 0513100 | 10μF | 2 B |
| C15 | 0600276 | 0.0027μF | 2 B |
| C16 | 0600276 | 0.0027μF 50V M.C. | 2 B |
| C17 | 0600276 | 0.0027μF 50V M.C. | 1 B |
| C18 | 0600276 | 0.0027μF 50V M.C. | 1 B |
| C19, 20 | 0620561 | 560pF | 1 B |
| C21, 22 | 0620561 | 560pF 50V P.C. | 1 B. 1 C |
| C23, 24 | 0600337 | 0.033μF | 2 B, C. 1,2 B |
| C25, 26 | 0600337 | 0.033μF | 1 C |
| C27, 28 | 0600107 | 0.01μF 50V M.C. | 1 B, C. 1 C |
| C29, 30 | 0600107 | 0.01μF | 1 C |
| C31, 32 | 0600397 | 0.039μF | 2 C. 1 C |
| C33 | 0620561 | 560pF 50V P.C. | 1 C |
| C34 | 0600276 | 0.0027μF 50V M.C. | 1 C |
| C35, 36 | 0515339 | 3.3μF 50V E.C. | 2 C |
| C37, 38 | 0515339 | 3.3μF 50V E.C. | 2 C |
| C601 | 0600396 | 0.0039μF 50V M.C. | 1 C |
| C602 | 0600107 | 0.01μF 50V M.C. | 1, 2 A |
| C603 | 0515339 | 3.3μF | 2 A |
| C604 | 0519102 | 3.3μF 50V E.C. | 2 A |
| C605 | 0519102 | 3.3μF 50V E.C. | 2 A |
| C606 | 0511101 | 100μF | 1 B |
| C607 | 0511470 | 47μF | 1 B |
| C608 | 0511101 | 100μF 10V E.C. | 1 B |
| C609 | 0511470 | 47μF | 1 A |
| C610 | 0511470 | 47μF | 1 B |
| C611 | 0519105 | 2.2μF 50V E.C. (BRN) | 2 B |
| R01, 02 | 0106474 | 470kΩ | 2 B. 2 A |
| R03, 04 | 0106274 | 270kΩ | 2 B. 2 A |
| R05, 06 | 0106274 | 270kΩ | 2 B. 2 A |
| R07, 08 | 0106332 | 3.3kΩ | 2 B. 2 A |
| R09, 10 | 0106472 | 4.7kΩ | 2 B. 2 A |
| R11, 12 | 0106472 | 4.7kΩ | 1 B. 1 A |
| R13, 14 | 0106274 | 270kΩ | 1 B. 1 A |
| R15, 16 | 0106823 | 82kΩ | 1 B. 1 A |
| R17, 18 | 0106271 | 270Ω | 2 B. 2 A |
| R19, 20 | 0106392 | 3.9kΩ | 1 B. 1 A |
| R21, 22 | 0106822 | 8.2kΩ | 1 B. 1 A |
| R23, 24 | 0106124 | 120kΩ | 1 B. 1 A |
| R25, 26 | 0106123 | 12kΩ | 1 B. 1 A |
| R27, 28 | 0106103 | 10kΩ | 1 B. 1 A |
| R29, 30 | 0106103 | 10kΩ | 1 B. 1 A |
| R31, 32 | 0106103 | 10kΩ | 1 B. 1 A |
| R33, 34 | 0106102 | 1kΩ | 2 B. 2 A |
| R35, 36 | 0106102 | 1kΩ | 2 B. 2 A |
| R37, 38 | 0106394 | 390kΩ | 2 B. 2 A |
| R39, 40 | 0106274 | 270kΩ | 2 B. 2 A |
| R601 | 0106151 | 150Ω | 2 A, B |

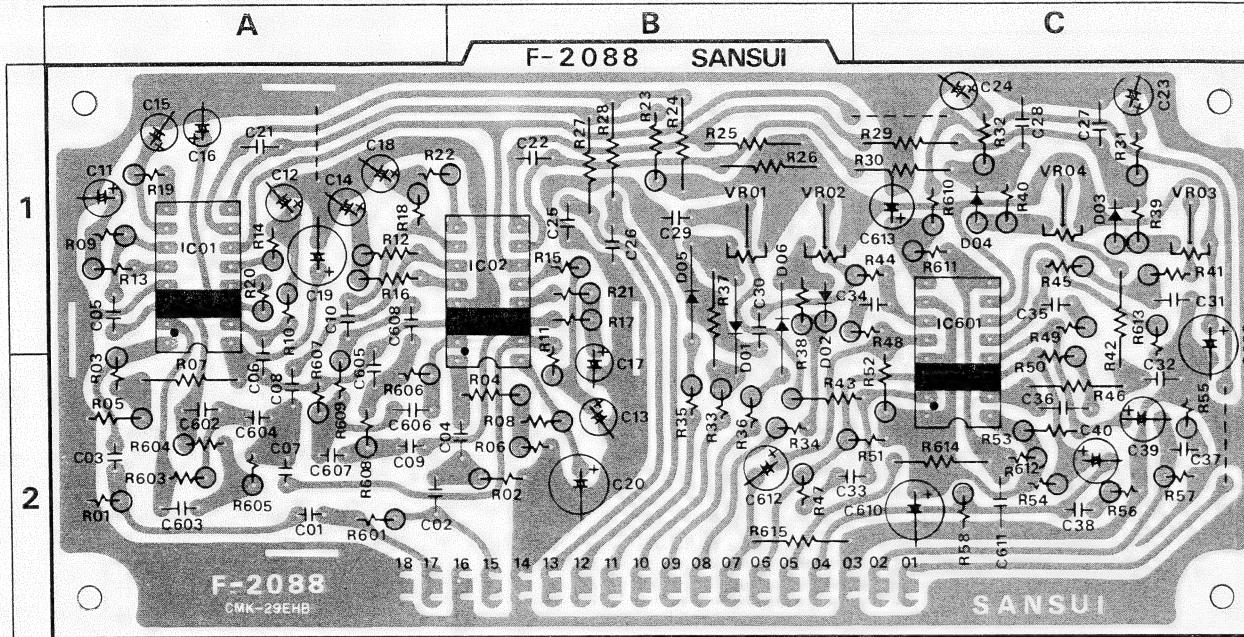
Conductor Side



Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------|---------------------------|
| R23 | 0106273 | 27kΩ | 1/4 W C.R. (E.L.R) 1 B |
| R24 | 0106273 | 27kΩ | 1/4 W C.R. (E.L.R) 1 B |
| R25 | 0107223 | 22kΩ | 1/4 W C.R. 1 B |
| R26 | 0106223 | 22kΩ | 1/4 W C.R. (E.L.R) 1 B |
| R27 | 0106223 | 22kΩ | 1/4 W C.R. (E.L.R) 1 B |
| R28 | 0106223 | 22kΩ | 1/4 W C.R. 1 B |
| R29 | 0107153 | 15kΩ | 1/4 W C.R. 2 B |
| R30 | 0106153 | 15kΩ | 2 B |
| R31 | 0106153 | 15kΩ | 2 B |
| R32 | 0106101 | 100Ω | 1/4 W C.R. (E.L.R) 2 A, B |
| R33 | 0106101 | 100Ω | 1/4 W C.R. (E.L.R) 2 A, B |
| R34 | 0106101 | 100Ω | 1, 2 A B |
| R35 | 0106101 | 100Ω | 1 A |
| R36 | 0106101 | 100Ω | 1 A, B |
| R37 | 0107152 | 1.5kΩ | 1/4 W C.R. 2 B |
| R38 | 0106152 | 1.5kΩ | 2 B |
| R39, 40 | 0106104 | 100kΩ | 1 B, 1 B, C |
| R41, 42 | 0106223 | 22kΩ | 2 B, C, 1 B |
| R43, 44 | 0106273 | 27kΩ | 1 C |
| R45, 46 | 0106224 | 220kΩ | 2 B, C, 1 B, C |
| R47, 48 | 0106224 | 220kΩ | 1 C |
| R49, 50 | 0106224 | 220kΩ | 1/4 W C.R. (E.L.R) 1 B, C |
| R51, 52 | 0106224 | 220kΩ | 1 C |
| R53, 54 | 0106272 | 2.7kΩ | 1 C |
| R55, 56 | 0106272 | 2.7kΩ | 1 C |
| R57, 58 | 0106272 | 2.7kΩ | 2 B, C, 1 C |
| R59, 60 | 0106272 | 2.7kΩ | 1 C |
| R61, 62 | 0106333 | 33kΩ | 2 C, 1 C |
| R63, 64 | 0106333 | 33kΩ | 1 C |

4-7. F-2088 QS Phase Control Circuit Board (Stock No. 7650270 Complete Circuit Board F-2088)
Conductor Side (QA-5000, QA-6000)



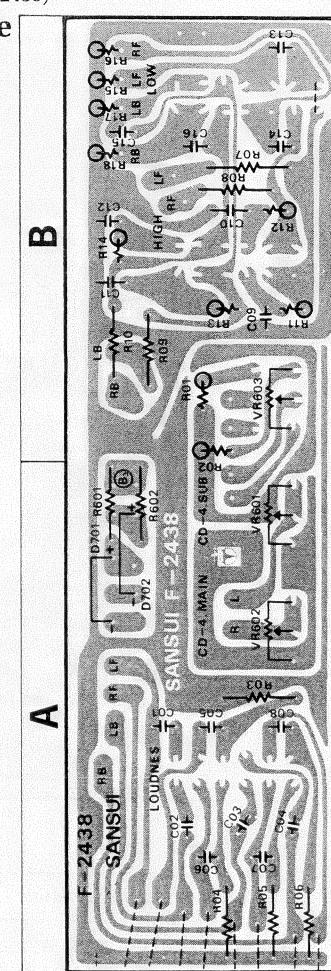
Parts List

| Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------|-------------------------------------|-----------|-----------|-------------|----------------|
| IC01 | 0360090-2 | HA1327 | 1 A | C23 | 0515109 | 1μF | 1 C |
| IC02 | 0360090-2 | HA1327 | 1 A | C24 | 0515109 | 1μF | 1 C |
| IC601 | 3600100 | HD3103(B) | 1, 2 C | C25 | 0600567 | 0.056μF | 1 B |
| D01 | 0311160 | 1S2473D | 1, 2 B | C26 | 0600567 | 0.056μF | 1 B |
| D02 | 0311160 | 1S2473D | 1 B | C27 | 0600567 | 0.056μF | 1 C |
| D03 | 0311160 | 1S2473D | Diode | C28 | 0600567 | 0.056μF | 1 C |
| D04 | 0311160 | 1S2473D | 1 C | C29 | 0600107 | 0.01μF | 1 B |
| D05 | 0311160 | 1S2473D | 1 B | C30 | 0600107 | 0.01μF | 1 B |
| D06 | 0311160 | 1S2473D | 1, 2 B | C31 | 0600337 | 0.033μF | 1 C |
| VR01 | 1035490 | 1MΩ (B) | 1 B | C32 | 0600337 | 0.033μF | 2 B |
| VR02 | 1035490 | 1MΩ (B) | 1 B | C33 | 0600226 | 0.0022μF | 2 B |
| VR03 | 1035490 | 1MΩ (B) | Semi-Variable Resistor (Solid Type) | C34 | 0600226 | 0.0022μF | 1 C |
| VR04 | 1035490 | 1MΩ (B) | 1 C | C35 | 0600226 | 0.0022μF | 1 C |
| C01 | 0600106 | 0.001μF | 50V M.C. | C36 | 0600226 | 0.0022μF | 2 C |
| C02 | 0600106 | 0.001μF | 50V M.C. | C37 | 0600187 | 0.018μF | 2 C |
| C03 | 0620331 | 330pF | 50V P.C. | C38 | 0600187 | 0.018μF | 2 C |
| C04 | 0620331 | 330pF | 50V P.C. | C39 | 0519105 | 2.2μF | 2 C |
| C05 | 0600396 | 0.0039μF | 50V M.C. | C40 | 0519105 | 2.2μF | 50V E.C. (BRN) |
| C06 | 0600396 | 0.0039μF | 50V M.C. | C41 | 0660101 | 100pF | 50V C.C. |
| C07 | 0620681 | 680pF | 50V P.C. | C42 | 0600337 | 0.033μF | 50V M.C. |
| C08 | 0620681 | 680pF | 50V P.C. | C43 | 0600337 | 0.033μF | 50V M.C. |
| C09 | 0620681 | 680pF | 50V P.C. | C44 | 0620471 | 470pF | 50V P.C. |
| C10 | 0620681 | 680pF | 50V P.C. | C45 | 0600687 | 0.068μF | 50V M.C. |
| C11 | 0513479 | 4.7μF | 1 A | C46 | 0600687 | 0.068μF | 50V M.C. |
| C12 | 0513479 | 4.7μF | 1 A | C47 | 0620471 | 470pF | 50V P.C. |
| C13 | 0513479 | 4.7μF | 2 B | C48 | 0620471 | 470pF | 50V P.C. |
| C14 | 0513479 | 4.7μF | 1 A | C49 | 0620471 | 470pF | 50V P.C. |
| C15 | 0513479 | 4.7μF | 25V E.C. | C50 | 0606104 | 100kΩ | 2 C |
| C16 | 0513479 | 4.7μF | 1 A | C51 | 0606123 | 12kΩ | 2 B, C |
| C17 | 0513479 | 4.7μF | 1, 2 B | C52 | 0106123 | 12kΩ | 2 C |
| C18 | 0513479 | 4.7μF | 1 A | C53 | 0106153 | 15kΩ | 2 C |
| C19 | 0513330 | 33μF | 1 A | C54 | 0106153 | 15kΩ | 2 C |
| C20 | 0513330 | 33μF | 2 B | C55 | 0106561 | 560Ω | 2 C |
| C21 | 0600687 | 0.068μF | 50V M.C. | C56 | 0106561 | 560Ω | 2 C |
| C22 | 0600687 | 0.068μF | 1 B | C57 | 0106333 | 33kΩ | 2 C |

Parts No. **Stock No.** **Description** **Position**

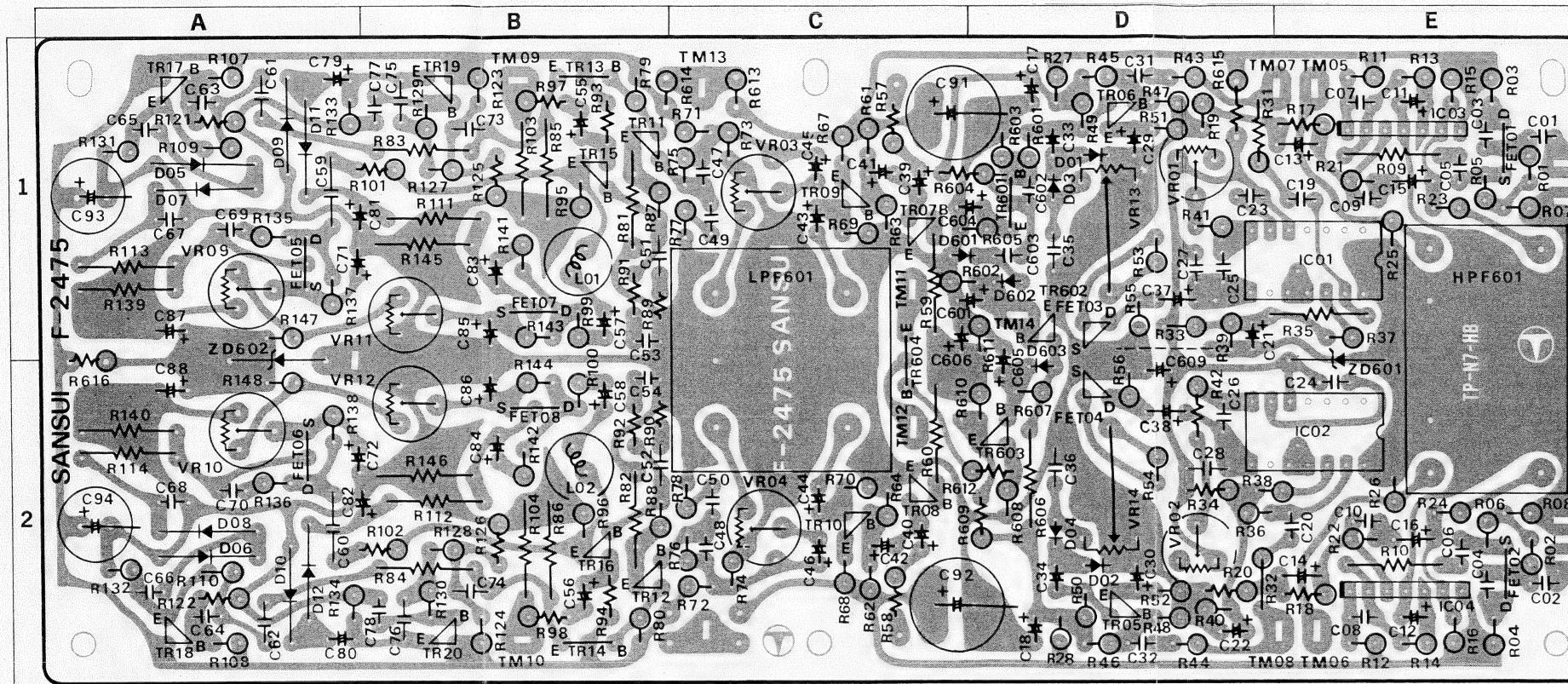
| | | | |
|-----|---------|-------|--------------------|
| R08 | 0106684 | 680kΩ | 2 B |
| R09 | 0106274 | 270kΩ | 1 A |
| R10 | 0106274 | 270kΩ | 1 A |
| R11 | 0106334 | 330kΩ | 1, 2 B |
| R12 | 0106334 | 330kΩ | 1 A |
| R13 | 0106124 | 120kΩ | 1 A |
| R14 | 0106124 | 120kΩ | 1 A |
| R15 | 0106124 | 120kΩ | 1 B |
| R16 | 0106124 | 120kΩ | 1 A |
| R17 | 0106334 | 330kΩ | 1 B |
| R18 | 0106334 | 330kΩ | 1 A |
| R19 | 0106394 | 390kΩ | 1 A |
| R20 | 0106394 | 390kΩ | 1 A |
| R21 | 0106124 | 120kΩ | 1 B |
| R22 | 0106124 | 120kΩ | 1 A, B |
| R23 | 0106124 | 120kΩ | 1 B |
| R24 | 0107124 | 120kΩ | 1 B |
| R25 | 0107124 | 120kΩ | 1 B |
| R26 | 0107124 | 120kΩ | 1 B |
| R27 | 0107563 | 56kΩ | 1/4 W C.R. |
| R28 | 0107563 | 56kΩ | 1 B |
| R29 | 0107563 | 56kΩ | 1 C |
| R30 | 0107563 | 56kΩ | 1 C |
| R31 | 0106563 | 56kΩ | 1 C |
| R32 | 0106563 | 56kΩ | 1 C |
| R33 | 0106474 | 470kΩ | 2 B |
| R34 | 0106474 | 470kΩ | 2 B |
| R35 | 0106564 | 560kΩ | 2 B |
| R36 | 0106564 | 560kΩ | 2 B |
| R37 | 0113225 | 2.2MΩ | 1 B |
| R38 | 0113225 | 2.2MΩ | 1 B |
| R39 | 0113155 | 1.5MΩ | 1/4 W S.R. |
| R40 | 0113155 | 1.5MΩ | 1 C |
| R41 | 0106334 | 330kΩ | 1/4 W C.R. (E.L.R) |
| R42 | 0107334 | 330kΩ | 1/4 W C.R. |
| R43 | 0106105 | 1MΩ | 2 B |
| R44 | 0106105 | 1MΩ | 1 B, C |
| R45 | 0106105 | 1MΩ | 1 C |
| R46 | 0107105 | 1MΩ | 1/4 W C.R. |
| R47 | 0106104 | 100kΩ | 2 C |
| R48 | 0106104 | 100kΩ | 1 B, C |
| R49 | 0106104 | 100kΩ | 1 C |
| R50 | 0106104 | 100kΩ | 2 C |
| R51 | 0106123 | 12kΩ | 2 B, C |
| R52 | 0106123 | 12kΩ | 2 C |
| R53 | 0106153 | 15kΩ | 2 C |
| R54 | 0106153 | 15kΩ | 2 C |
| R55 | 0106561 | 560Ω | 2 C |
| R56 | 0106561 | 560Ω | 2 C |
| R57 | 0106333 | 33kΩ | 2 C |
| R58 | 0106333 | 33kΩ | 2 C |
| R60 | 0106224 | 220kΩ | 1/4 W C.R. (E.L.R) |
| R61 | 0106472 | 4.7kΩ | 1 C |
| R62 | 0106272 | 2.7kΩ | 1 C |
| R63 | 0106682 | 6.8kΩ | 2 A |
| R64 | 0106682 | 6.8kΩ | 2 A |
| R65 | 0106333 | 33kΩ | 2 A |
| R66 | 0106682 | 6.8kΩ | 2 A |
| R67 | 0106682 | 6.8kΩ | 2 A |
| R68 | 0106683 | 68kΩ | 2 A |
| R69 | 0106683 | 68kΩ | 2 A |
| R70 | 0106472 | 4.7kΩ | 1 C |
| R71 | 0106272 | 2.7kΩ | 1 C |
| R72 | 0106223 | 22kΩ | 2 C |
| R73 | 0106103 | 10kΩ | 1, 2 C |
| R74 | 0107272 | 2.7kΩ | 2 C |
| R75 | 0107104 | 100kΩ | 2 B |

4-8. F-2438 Filter & Volume Circuit Board (Stock No. 7592290 Complete Circuit Board F-2438)
Conductor Side (QA-6000)



4-9. F-2475 CD-4 Sub-Channel Unit Circuit Board (Stock No. 7650370 Complete Circuit Board F-2475A... QA-6000)
(Stock No. 7650390 Complete Circuit Board F-2475B... QA-5000)

Conductor Side



The differences between QA-5000 and QA-6000 are values of two resistors, ≈ 97 , ≈ 98 only.

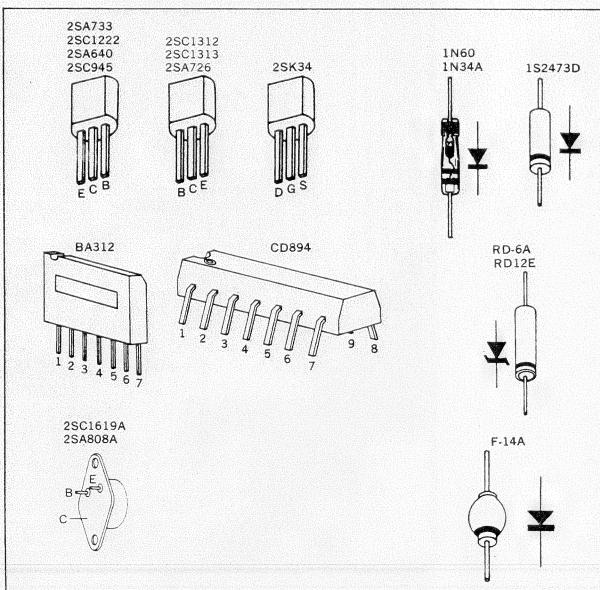
| Parts No. | Stock No. | Description | Position |
|-------------------|-----------|---------------|-------------------------------|
| C81, 82 | 0573338 | $0.33\mu F$ | 1AB. 2AB |
| C83, 84 | 0573338 | $0.33\mu F$ | 1B. 2B |
| C85, 86 | 0511330 | $33\mu F$ | 1B. 2B |
| C87, 88 | 0510470 | $47\mu F$ | 1A. 2A |
| C91, 92 | 0513221 | $220\mu F$ | 1CD. 2CD |
| C93, 94 | 0513101 | $100\mu F$ | 1A. 2A |
| C601 | 0573108 | $0.1\mu F$ | 1C. D |
| C602 | 0660221 | $220pF$ | 1D |
| C603 | 0600476 | $0.0047\mu F$ | 1D |
| C604 | 0515109 | $1\mu F$ | 1C. D |
| C605 | 0512330 | $33\mu F$ | 1, 2D |
| C606 | 0515109 | $1\mu F$ | 1D |
| R01, 02 | 0106105 | $1M\Omega$ | 1E. 2E |
| R03, 04 | 0106102 | $1k\Omega$ | 1E. 2E |
| R05, 06 | 0106221 | 220Ω | 1E. 2E |
| R07, 08 | 0106123 | $12k\Omega$ | 1E. 2E |
| R09, 10 | 0107479 | 4.7Ω | 1E. 2E |
| R11, 12 | 0106684 | $680k\Omega$ | 1E. 2E |
| R13, 14 | 0106562 | $5.6k\Omega$ | 1E. 2E |
| R15, 16 | 0106103 | $10k\Omega$ | 1E. 2E |
| R17, 18 | 0106332 | $3.3k\Omega$ | 1E. 2E |
| R19, 20 | 0106470 | 47Ω | 1D. 2D |
| R21, 22 | 0106223 | $22k\Omega$ | 1E. 2E |
| R23, 24 | 0106332 | $3.3k\Omega$ | 1E. 2E |
| R25, 26 | 0106562 | $5.6k\Omega$ | 1E. 2E |
| R27, 28 | 0106152 | $1.5k\Omega$ | 1D. 2D |
| R31, 32 | 0106272 | $2.7k\Omega$ | 1D. 2D |
| R33, 34 | 0106103 | $10k\Omega$ | 1D. 2D |
| R35 | 0107472 | $4.7k\Omega$ | 1D. E |
| R36 | 0106472 | $4.7k\Omega$ | 2D |
| R37, 38 | 0106472 | $4.7k\Omega$ | 1E. 2DE |
| R39, 40 | 0106103 | $10k\Omega$ | 1D. 2D |
| R41, 42 | 0106222 | $2.2k\Omega$ | 1D. 2D |
| R43, 44 | 0106152 | $1.5k\Omega$ | 1D. 2D |
| R45, 46 | 0106154 | $150k\Omega$ | 1D. 2D |
| R47, 48 | 0106274 | $270k\Omega$ | 1D. 2D |
| R49, 50 | 0106102 | $1k\Omega$ | 1D. 2D |
| R51, 52 | 0106222 | $2.2k\Omega$ | 1D. 2D |
| R53, 54 | 0106683 | $68k\Omega$ | 1D. 2D |
| R55, 56 | 0106104 | $100k\Omega$ | 1D. 2D |
| R57, 58 | 0106562 | $5.6k\Omega$ | 1D. 2D |
| R59, 60 | 0107102 | $1k\Omega$ | $\frac{1}{4}W$ C.R. |
| R61, 62 | 0106333 | $33k\Omega$ | 1D. 2D |
| R63, 64 | 0106474 | $470k\Omega$ | 1C. 2C |
| R67, 68 | 0106221 | 220Ω | 1C. 2C |
| R69, 70 | 0106472 | $4.7k\Omega$ | 1C. 2C |
| R71, 72 | 0106474 | $470k\Omega$ | $\frac{1}{4}W$ C.R. (E.L.R.) |
| R73, 74 | 0106473 | $47k\Omega$ | 1C. 2C |
| R75, 76 | 0106333 | $33k\Omega$ | 1C. 2C |
| R77, 78 | 0106472 | $4.7k\Omega$ | 1C. 2C |
| R79, 80 | 0106273 | $27k\Omega$ | 1B. 2B |
| R81, 82 | 0107272 | $2.7k\Omega$ | 1B. 2B |
| R83, 84 | 0107479 | 4.7Ω | $\frac{1}{4}W$ C.R. |
| R85, 86 | 0107103 | $10k\Omega$ | 1B. 2B |
| R87, 88 | 0106473 | $47k\Omega$ | 1B. 2B |
| R89, 90 | 0106103 | $10k\Omega$ | 1B. 2B |
| R91, 92 | 0106223 | $22k\Omega$ | $\frac{1}{4}W$ C.R. (E.L.R.) |
| R93, 94 | 0106103 | $10k\Omega$ | 1B. 2B |
| R95, 96 | 0106392 | $3.9k\Omega$ | 1B. 2B |
| $\approx R97, 98$ | 0106223 | $22k\Omega$ | $\frac{1}{4}W$ C.R. (QA-6000) |
| $\approx R97, 98$ | 0106272 | $2.7k\Omega$ | $\frac{1}{4}W$ C.R. (QA-5000) |
| R99, 100 | 0106271 | 270Ω | 1B. 2B |
| R101, 102 | 0106561 | 560Ω | 1AB. 2AB |
| R103, 104 | 0107333 | $33k\Omega$ | $\frac{1}{4}W$ C.R. |

Parts List

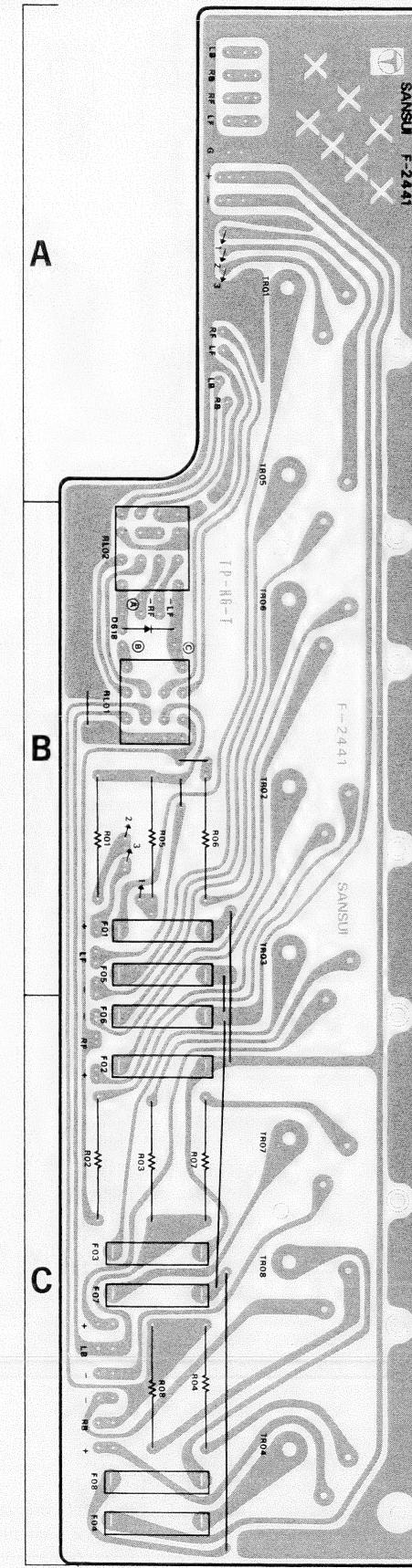
| Parts No. | Stock No. | Description | Position |
|-----------|---------------|-------------------------|----------|
| TR05, 06 | 0305951, 2, 3 | 2SC945 (Q, P, K) | 2D. 1D |
| TR07, 08 | 0305951, 2, 3 | 2SC945 (Q, P, K) | 1D. 2C |
| TR09, 10 | 0300301, 3, 5 | 2SA640 (M, K, L) | 1D. 2C |
| | 0300410, 1 | 2SA726 (F, G) | |
| TR11, 12 | 0306090, 1 | 2SC1312R (F, G) | 1B. 2B |
| | 0306011, 2 | 2SC1222 (E, F) | |
| | 0306090, 1 | 2SC1312R (F, G) | |
| TR13, 14 | 0306011, 2 | 2SC1222 (E, F) | 1B. 2B |
| | 0306090, 1 | 2SC1312R (F, G) | |
| TR15, 16 | 0306011, 2 | 2SC1222R (E, F) | 1B. 2B |
| | 0306090, 1 | 2SC1312R (F, G) | |
| TR17, 18 | 0305951, 2, 3 | 2SC945 (Q, P, K) | 1A. 2A |
| TR19, 20 | 0305951, 2, 3 | 2SC945 (Q, P, K) | 1B. 2B |
| TR601 | 0305951, 2, 3 | 2SC945 (Q, P, K) | 1D |
| TR602 | 0305951, 2, 3 | 2SC945 (Q, P, K) | 1D |
| TR603 | 0300510, 1 | 2SA733 (Q, P) | 2D |
| TR604 | 0305951, 2, 3 | 2SC945 (Q, P, K) | 1, 2C |
| FET01, 02 | 0370150, 1 | 2SK34 (B, C) | 1E. 2E |
| FET03, 04 | 0370150 | 2SK34 (B) | 1D. 2D |
| FET05, 06 | 0370151 | 2SK34 (C) | 1A. 2A |
| FET07, 08 | 0370151 | 2SK34 (C) | 1B. 2B |
| IC01, 02 | 0360110 | CD894A | 1DE. 2DE |
| IC03, 04 | 0360200 | BA312S | 1E. 2E |
| D01, 02 | 0311160 | IS2473D | Diode |
| | | | 1D. 2D |
| D03, 04 | 0311160 | IS2473D | |
| D05, 06 | 0310400 | IN34A | |
| D07, 08 | 0310400 | IN34A | |
| D09, 10 | 0310400 | IN34A | |
| D11, 12 | 0310400 | IN-34A | |
| D601, 602 | 0310330 | IN-60 | 1CD. 2D |
| D603 | 0310330 | IN-60 | 2D |
| ZD601 | 0316290 | RD-12E (B) | 1, 2E |
| ZD602 | 0315530 | RD-6A (K) | 1, 2A |
| VR01, 02 | 1035100 | 3.3k Ω (B) | 1D. 2D |
| VR03, 04 | 1035110 | 4.7k Ω (B) | 1C. 2C |
| VR09, 10 | 1035150 | 22k Ω (B) | 1A. 2A |
| VR11, 12 | 1035150 | 22k Ω (B) | 1B. 2B |
| VR13, 14 | 1032520, 1 | 100k Ω (B) | 1D. 2B |
| L01, 02 | 4900220 | 100mH | 1D. 2D |
| HPF601 | 0910250 | High Pass Filter | 1, 2E |
| LPF601 | 0910240 | Low Pass Filter | 1, 2C |
| C01, 02 | 0601106 | 0.001 μF 50V M.C. | 1E. 2E |
| C03, 04 | 0660220 | 22pF 50V C.C. | 1E. 2E |
| C05, 06 | 0600226 | 0.0022 μF 50V M.C. | 1E. 2E |
| C07, 08 | 0660100 | 10pF 50V C.C. | 1E. 2E |
| C09, 10 | 0660151 | 150pF 50V C.C. | 1E. 2E |
| C11, 12 | 0515339 | 3.3 μF | 1E. 2E |
| C13, 14 | 0515109 | 1 μF 50V E.C. | 1E. 2E |
| C15, 16 | 0515109 | 1 μF | 1E. 2E |
| C17, 18 | 0512330 | 33 μF 16V E.C. | 1D. 2D |
| C19, 20 | 0601276 | 0.0027 μF 50V M.C. | 1E. 2E |
| C21, 22 | 0515109 | 1 μF 50V E.C. | 1D. 2D |

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------------------|----------|
| C23, 24 | 0600276 | 0.0027 μF 50V M.C. | 1D. 2E |
| C25, 26 | 0657102 | 0.001 μF 50V C.C. | 1D. 2D |
| C27, 28 | 0600276 | 0.0027 μF 50V M.C. | 1D. 2D |
| C29, 30 | 0511330 | 33 μF 10V E.C. | 1D. 2D |
| C31, 32 | 0620681 | 680pF 50V P.C. | 1D. 2D |
| C33, 34 | 0515109 | 1 μF 50V E.C | |

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------|-----------------|
| R107, 108 | 0106473 | 47kΩ | 1A.2A |
| R109, 110 | 0106823 | 82kΩ | 1A.2A |
| R111, 112 | 0107473 | 47kΩ | 1B.2A |
| R113, 114 | 0107563 | 56kΩ | 1A.2A |
| R121, 122 | 0106473 | 47kΩ | 1A.2A |
| R123, 124 | 0106473 | 47kΩ | 1B.2B |
| R125, 126 | 0106473 | 47kΩ | 1B.2B |
| R127, 128 | 0106103 | 10kΩ | 1B.2B |
| R129, 130 | 0106103 | 10kΩ | 1B.2B |
| R131, 132 | 0106682 | 6.8kΩ | 1A.2A |
| R133, 134 | 0106682 | 6.8kΩ | 1A.2A |
| R135, 136 | 0106104 | 100kΩ | 1A.2A |
| R137, 138 | 0106183 | 18kΩ | 1A.2A |
| R139, 140 | 0107474 | 470kΩ | 1A.2A |
| R141, 142 | 0106104 | 100kΩ | 1B.2B |
| R143, 144 | 0106183 | 18kΩ | 1B.2B |
| R145, 146 | 0107394 | 390kΩ | 1B.2A |
| R147, 148 | 0106102 | 1kΩ | 1A.2A |
| R601 | 0106272 | 2.7kΩ | 1D |
| R602 | 0106472 | 4.7kΩ | 1C, D |
| R603 | 0106103 | 10kΩ | 1D |
| R604 | 0106471 | 470Ω | 1C, D |
| R605 | 0106272 | 2.7kΩ | 1D |
| R606 | 0107562 | 5.6kΩ | 2D |
| R607 | 0106103 | 10kΩ | 2D |
| R608 | 0106102 | 1kΩ | 2D |
| R609 | 0109103 | 10kΩ | 2D |
| R610 | 0106392 | 3.9kΩ | 2D |
| R611 | 0106821 | 820Ω | 1A.2A |
| R612 | 0106102 | 1kΩ | 2C, D |
| R613 | 0106390 | 39Ω | 1C |
| R614 | 0106820 | 82Ω | 1B, C |
| R615 | 0104331 | 330Ω | 1W C.R. |
| R616 | 0104681 | 680Ω | 1W C.R. (E.L.R) |

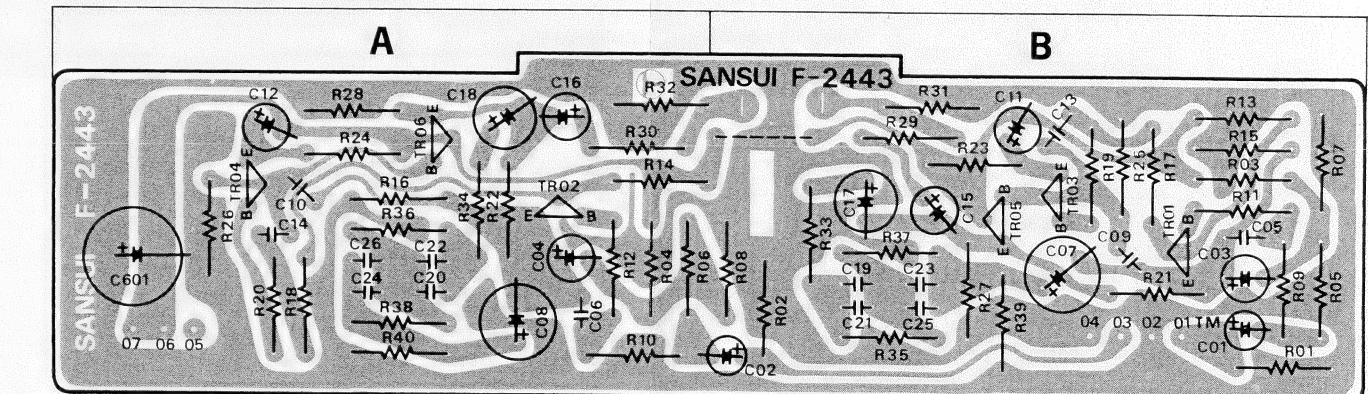

Abbreviations

| | |
|---------------------------------|---|
| C.R. : Carbon Resistor | BP.E.C. : Bi-Polar Electrolytic Capacitor |
| S.R. : Solid Resistor | C.C. : Ceramic capacitor |
| Ce.R. : Cement Resistor | Mi.C. : Mica Capacitor |
| M.R. : Metallized Film Resistor | O.C. : Oil Capacitor |
| M.C. : Mylar Capacitor | P.C. : Polystyrene Capacitor |
| E.C. : Electrolytic Capacitor | T.C. : Tantalum Capacitor |

4-10. F-2441 Power Transistor Circuit Board (Stock No. 7592320 Complete Circuit Board F-2441)
Conductor Side (QA-6000)

Parts List

| Parts No. | Stock No. | Description |
|-----------|------------|-----------------|
| TR01 | 0306212, 3 | 2SC1619A (O, Y) |
| TR02 | 0306212, 3 | 2SC1619A (O, Y) |
| TR03 | 0306212, 3 | 2SC1619A (O, Y) |
| TR04 | 0306212, 3 | 2SC1619A (O, Y) |
| TR05 | 0300632, 3 | 2SA808A (O, Y) |
| TR06 | 0300632, 3 | 2SA808A (O, Y) |
| TR07 | 0300632, 3 | 2SA808A (O, Y) |
| TR08 | 0300632, 3 | 2SA808A (O, Y) |
| D618, 619 | 0310940 | F-14A Diode |
| RL01, 02 | 1150101 | MY4-DC24V Relay |

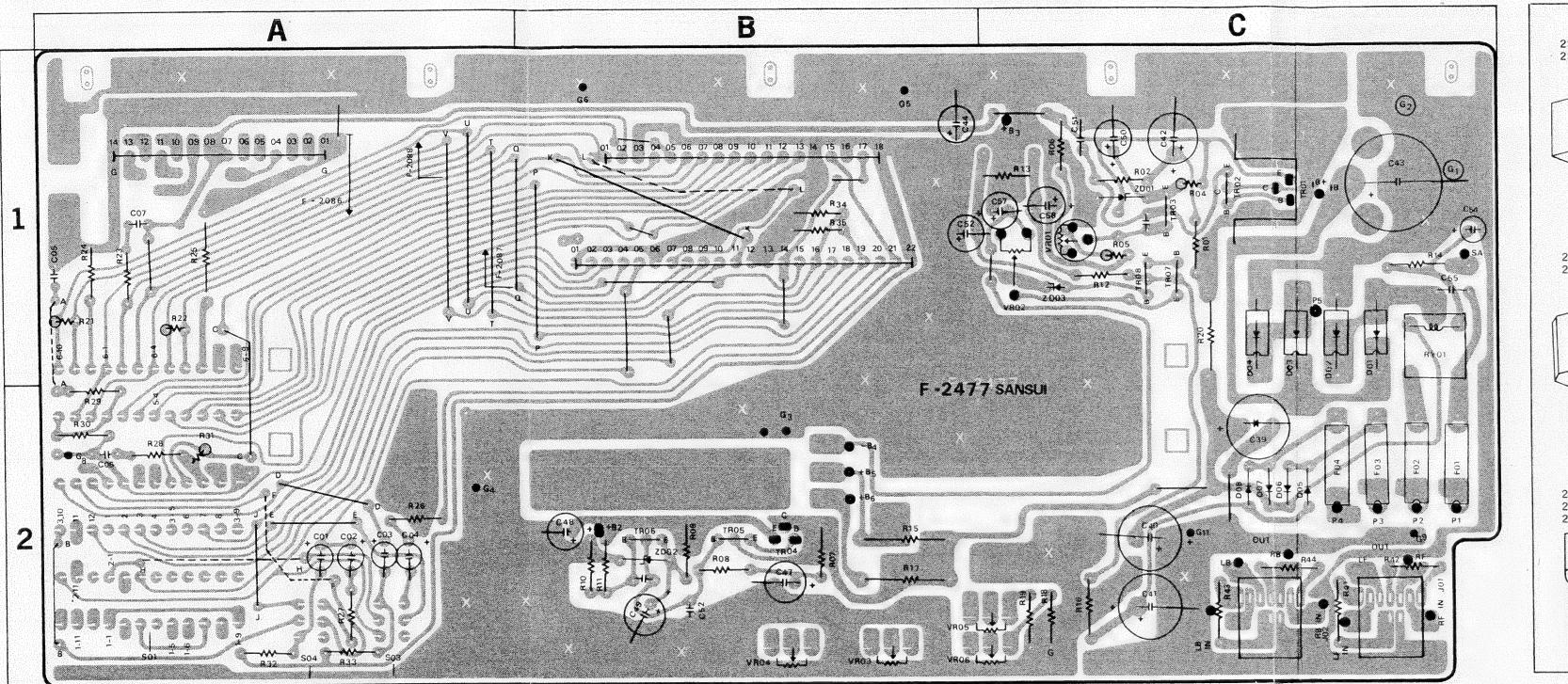
| Parts No. | Stock No. | Description |
|-----------|-----------|---------------------------|
| C01, 02 | 0515109 | 1μF 50V E.C. |
| R01, 02 | 0133478 | |
| R03, 04 | 0133478 | |
| R05, 06 | 0133478 | 0.47Ω 3W Ce.R. |
| R07, 08 | 0133478 | |
| F01, 02 | 0433620 | |
| F03, 04 | 0433620 | |
| F05, 06 | 0433620 | 3A 250V Quick Acting Fuse |
| F07, 08 | 0433620 | |

4-11. F-2443 Equalizer Circuit Board (Stock No. 7550660 Complete Circuit Board F-2443)
Conductor Side (QA-6000)

Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|------------|----------------------|------------|
| TR01, 02 | 0300410, 1 | 2SA726 (F, G) | B. A |
| TR03, 04 | 0306070, 1 | 2SC1313 (F, G) | Transistor |
| TR05, 06 | 0300410, 1 | 2SA726 (F, G) | B. A |
| C01, 02 | 0519105 | 2.2μF 50V (BRN) E.C. | B. A, B |
| C03, 04 | 0513100 | 10μF 25V E.C. | B. A |
| C05, 06 | 0660151 | 150pF 50V C.C. | B. A |
| C07, 08 | 0512470 | 47μF 16V E.C. | B. A |
| C09, 10 | 0620391 | 390pF 50V P.C. | B. A |
| C11, 12 | 0511330 | 33μF 10V E.C. | B. A |
| C13, 14 | 0660120 | 12pF 50V C.C. | B. A |
| C15, 16 | 0519102 | 3.3μF 50V (BRN) E.C. | B. A |
| C17, 18 | 0515100 | 10μF 50V E.C. | B. A |
| C19, 20 | 0600826 | 0.0082μF 50V M.C. | B. A |
| C21, 22 | 0620152 | 1500pF 50V P.C. | B. A |
| C23, 24 | 0600226 | 0.0022μF 50V M.C. | B. A |
| C25, 26 | 0620221 | 220pF 50V P.C. | B. A |
| C27, 28 | 0660101 | 100pF 50V C.C. | B. A |
| C601 | 0515101 | 100μF 50V E.C. | A |

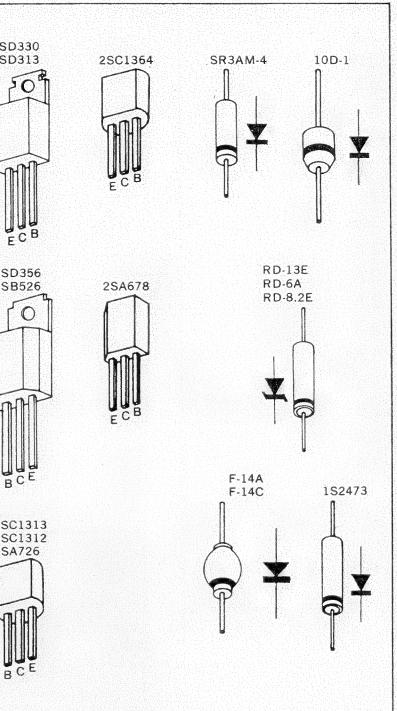
| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------|-----------|
| R01, 02 | 0107473 | 47kΩ | B |
| R03, 04 | 0107224 | 220kΩ | B. A |
| R05, 06 | 0107104 | 100kΩ | B. A |
| R07, 08 | 0107563 | 56kΩ | B |
| R09, 10 | 0107222 | 2.2kΩ | B. A |
| R11, 12 | 0107221 | 220Ω | B. A |
| R13, 14 | 0107223 | 22kΩ | B. A |
| R15, 16 | 0107104 | 100kΩ | B. A |
| R17, 18 | 0107561 | 560Ω | B. A |
| R19, 20 | 0107561 | 560Ω | B. A |
| R21, 22 | 0107824 | 820kΩ | 1/4W C.R. |
| R23, 24 | 0107122 | 1.2kΩ | B. A |
| R25, 26 | 0107683 | 68kΩ | B. A |
| R27, 28 | 0107682 | 6.8kΩ | B. A |
| R29, 30 | 0107152 | 1.5kΩ | B. A |
| R31, 32 | 0107683 | 68kΩ | B. A |
| R33, 34 | 0107561 | 560Ω | B. A |
| R35, 36 | 0107564 | 560kΩ | B. A |
| R37, 38 | 0107273 | 27kΩ | B. A |
| R39, 40 | 0107821 | 820Ω | B. A |

4-12. F-2477 Power Supply Circuit Board (Stock No. 7592360 Complete Circuit Board F-2477)
Conductor Side (QA-5000)

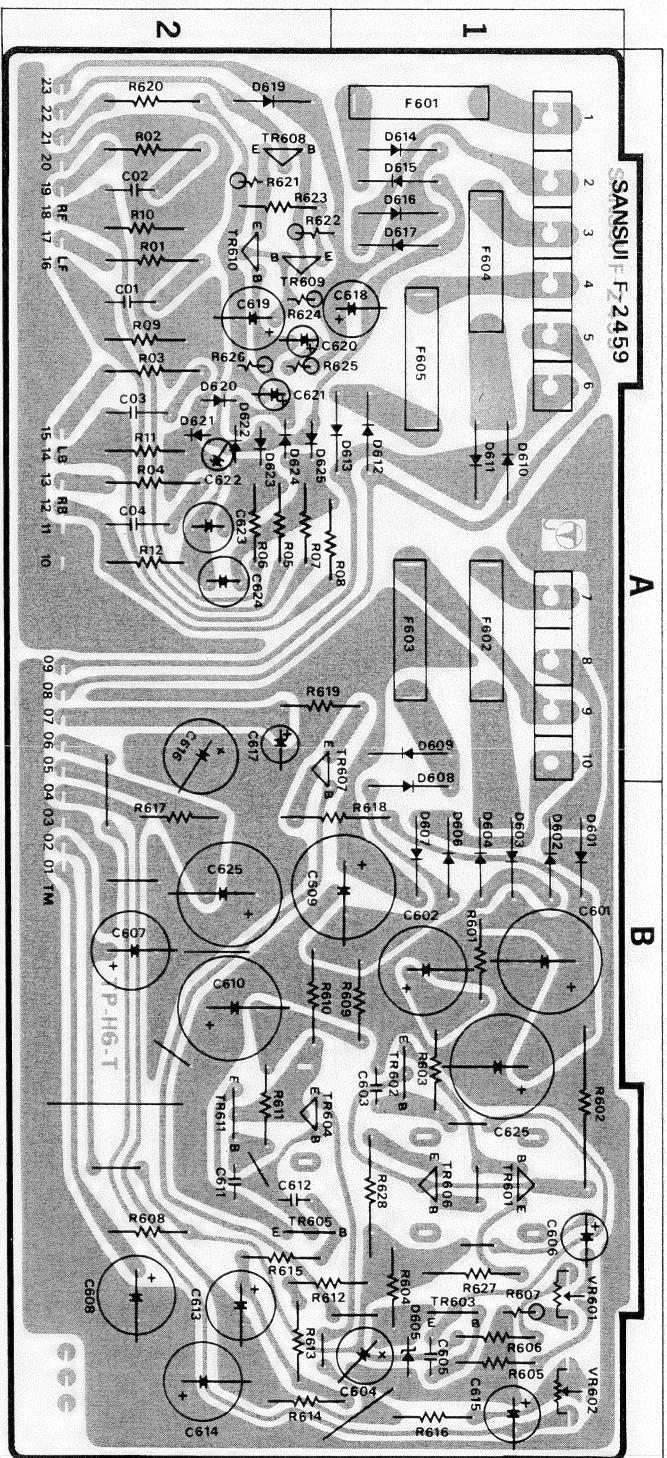


Parts List

| Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position |
|-----------|------------|---------------------|-------------|-----------|-----------|-------------------------|----------|-----------|------------|-----------------------------------|----------|
| TR01 | 0308362, 3 | 2SD330 (D, E) | Transistor | C47 | 0515101 | 100 μ F 50V E.C. | 2 B | R18 | 0106102 | 1k Ω | 2 C |
| TR02 | 0306131, 2 | 2SC1364(6, 7) | | C48 | 0515470 | 47 μ F 50V E.C. | 2 B | R19 | 0106102 | 1k Ω | 2 C |
| TR03 | 0306131, 2 | 2SC1364(6, 7) | | C49 | 0512470 | 47 μ F 16V E.C. | 2 B | R20 | 0135390 | 39 Ω 5 W Ce.R. | 1 C |
| TR04 | 0308451, 2 | 2SD356 (D, E) | | C50 | 0512470 | 47 μ F 16V E.C. | 1 C | R21 | 0106563 | 56k Ω | 1 A |
| TR05 | 0306131, 2 | 2SC1364(6, 7) | | C51 | 0512470 | 47 μ F 16V E.C. | 1 C | R22 | 0106563 | 56k Ω | 1 A |
| TR06 | 0306131, 2 | 2SC1364(6, 7) | | C52 | 0512470 | 47 μ F 16V E.C. | 1 B, C | R23 | 0107121 | 120 Ω | 1 A |
| TR07 | 0300291, 2 | 2SA678 (6, 7) | | C53 | 0512470 | 47 μ F 16V E.C. | 1 C | R24 | 0107182 | 1.8k Ω | 1 A |
| TR08 | 0300291, 2 | 2SA678 (6, 8) | | C55 | 0659011 | 0.01 μ F 500V C.C. | 1 C | R25 | 0107182 | 1.8k Ω | 1 A |
| D01~04 | 0311240 | SR3AM-4 | 1 C | C56 | 0660151 | 150 pF 50V C.C. | 1 C | R26 | 0107392 | 3.9k Ω | 2 A |
| D05~08 | 0310340 | 10D-1 | Diode | C601 | 0519001 | 10 μ F 25V E.C. | 1 C | R27 | 0107562 | 5.6k Ω | 2 A |
| D09 | 0310340 | 10D-1 | | C602 | 0519001 | 10 μ F 25V E.C. | 1 C | R28 | 0107471 | 470 Ω | 2 A |
| ZD01 | 0316320 | RD-13E (C) | 1 C | C603 | 0519001 | 10 μ F 25V E.C. | 1 C | R29 | 0107681 | 680 Ω | 2 A |
| ZD02 | 0316320 | RD-13E (C) | Zener Diode | C604 | 0519001 | 10 μ F 25V E.C. | 1 C | R30 | 0107152 | 1.5k Ω | 2 A |
| ZD03 | 0315550 | RD-6A (M) | | R01 | 0107562 | 5.6k Ω | 1 C | R31 | 0106563 | 56k Ω | 2 A |
| C01 | 0519001 | 10 μ F (BRN) | | R02 | 0107392 | 3.9k Ω | 1 C | R32 | 0107563 | 56k Ω | 2 A |
| C02 | 0519001 | 10 μ F (BRN) | | R03 | 0106392 | 3.9k Ω | 1 C | R33 | 0107563 | 56k Ω | 2 A |
| C03 | 0519001 | 10 μ F (BRN) | 25V E.C. | R04 | 0106392 | 3.9k Ω | 1 C | R34 | 0107154 | 150k Ω | 1 B |
| C04 | 0519001 | 10 μ F (BRN) | | R05 | 0106123 | 12k Ω | 1 C | R35 | 0107154 | 150k Ω | |
| C05 | 0600157 | 0.015 μ F | | R06 | 0107103 | 10k Ω | 1 C | R41 | 0103391 | 390 Ω | 2 C |
| C06 | 0600227 | 0.022 μ F | 50V M.C. | R07 | 0107392 | 3.9k Ω | 2 B | R42 | 0103391 | 390 Ω | 2 C |
| C07 | 0600567 | 0.056 μ F | | R08 | 0107152 | 1.5k Ω | 2 B | R43 | 0103391 | 390 Ω | 2 C |
| C39 | 0516331 | 330 μ F | | R09 | 0107682 | 6.8k Ω | 2 B | R44 | 0103391 | 390 Ω | 2 C |
| C40 | 0516331 | 330 μ F | 63V E.C. | R10 | 0107123 | 12k Ω | 2 B | F01, 02 | 0430910 | 6A | 2 C |
| C41 | 0516331 | 330 μ F | | R11 | 0107153 | 15k Ω | 2 B | F03, 04 | 0430830 | 1A | 2 C |
| C42 | 0515101 | 100 μ F | 50V E.C. | R12 | 0107562 | 5.6k Ω | 1 C | RY01 | 1150150 | Power Relay | 1 C |
| C43 | 0549108 | 4700 μ F | | R13 | 0107122 | 1.2k Ω | 1 C | VR01 | 1035090 | 2.2k Ω (B) | 1 C |
| C44 | 0513470 | 47 μ F 25V E.C. | | R14 | 0104152 | 1.5k Ω 1W C.R. | 1 C | VR02 | 1032440 | 1k Ω (B) | 2 B |
| C45 | 0657223 | 0.022 μ F | 50V C.C. | R15 | 0105222 | 2.2k Ω 2W C.R. | 2 B | VR03, 04 | 1005150, 1 | 50k Ω (B) Carrier Level VR | 2 C, B |
| C46 | 0660151 | 150 pF | | R16 | 0103562 | 5.6k Ω 1/2W C.R. | 2 C | VR05, 06 | 1015100, 1 | 10k Ω × 2 Separation VR | 2 C, B |
| | | | | R17 | 0105222 | 2.2k Ω 2W C.R. | 2 B | | | | |



4-13. F-2459 Power Supply Circuit Board (Stock No. 7501040 Complete Circuit Board F-2459)
Conductor Side (QA-6000)



Abbreviations

| | | | |
|--------|----------------------------|-----------|---------------------------------|
| C.R. | : Carbon Resistor | B.P.E.C.: | Bi-Polar Electrolytic Capacitor |
| S.R. | : Solid Resistor | Ce.R.: | Cement Resistor |
| C.e.R. | : Cement Resistor | M.R.: | Metallized Film Resistor |
| M.R. | : Metallized Film Resistor | Mi.C.: | Mica Capacitor |
| M.C. | : Mylar Capacitor | O.C.: | Oil Capacitor |
| E.C. | : Electrolytic Capacitor | P.C.: | Polystyrene Capacitor |
| | | T.C.: | Tantalum Capacitor |

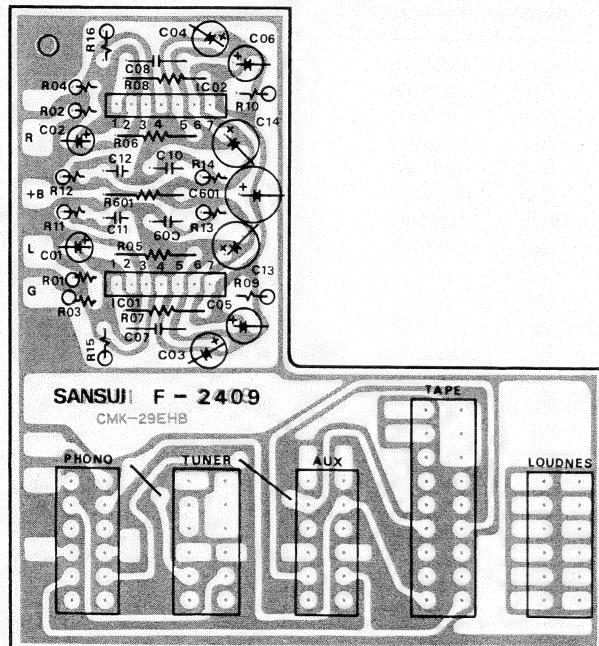
Parts List

| Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position |
|-----------|------------|------------------|------------------------|-----------|--------------|---------------------------------|-------------------|
| TR601 | 0308392, 3 | 2SD313 (E, F) | 1 B | C619 | 0510331 | 330 μ F 6.3V E.C. | 2 A |
| TR602 | 0306071, 2 | 2SC1313 (F,G) | 1 B | C620 | 0519103 | 0.47 μ F 50V E.C. (BRN) | 2 A |
| TR603 | 0306090, 1 | 2SC1312 (F,G) | 1 B | C621 | 0515109 | 1 μ F 50V E.C. | 2 A |
| TR604 | 0303281, 2 | 2SB526 (D, E) | 2 B | C622 | 0535109 | 1 μ F 50V BP. E.C. | 2 A |
| TR605 | 0300410, 1 | 2SA726 (F,G) | 1, 2 B | C623 | 0530470 | 47 μ F 6.3V BP. E.C. | 2 A |
| TR606 | 0308392, 3 | 2SD313 (E, F) | Transistor 1 B | C624 | 0530470 | 47 μ F 6.3V BP. E.C. | 2 A |
| TR607 | 0308392, 3 | 2SD313 (E, F) | 2 A, B | C625 | 0515221 | 220 μ F 50V E.C. | 1 B |
| TR608 | 0306090, 1 | 2SC1312 (E, F) | 2 A | C626 | 0519903 | 100 μ F 80V E.C. | |
| TR609 | 0306090, 1 | 2SC1312 (E, F) | 2 A | R01 | 0103100 | 10 Ω | 2 A |
| TR610 | 0306090, 1 | 2SC1312 (E, F) | 2 A | R02 | 0103100 | 10 Ω | 2 A |
| TR611 | 0300470, 1 | 2SA726 (F,G) | 2 B | R03 | 0103100 | 10 Ω | 1/2W C.R. |
| D601 | 0310940 | F-14A | 1 B | R04 | 0103100 | 10 Ω | 2 A |
| D602 | 0310940 | F-14A | 1 B | R05 | 0107473 | 47k Ω | 2 A |
| D603 | 0310940 | F-14A | 1 B | R06 | 0107473 | 47k Ω | 2 A |
| D604 | 0310940 | F-14A | 1 B | R07 | 0107473 | 74k Ω | 2 A |
| D605 | 0316210 | RD-8.2E(B) | Zener Diode | R08 | 0107473 | 74k Ω | 1, 2 A |
| D606 | 0310940 | F-14A | 1 B | R09 | 0107332 | 3.3k Ω | 1/4W C.R. |
| D607 | 0310940 | F-14A | 1 B | R10 | 0107332 | 3.3k Ω | 2 A |
| D608 | 0310940 | F-14A | 1 B | R11 | 0107332 | 3.3k Ω | 2 A |
| D609 | 0310940 | F-14A | 1 A | R12 | 0107332 | 3.3k Ω | 2 A |
| D610 | 0311200 | F-14C | 1 A | R601 | 0107472 | 4.7k Ω | 1 B |
| D611 | 0311200 | F-14C | 1 A | R602 | 0105330 | 33 Ω 2W C.R. | 1 B |
| D612 | 0311200 | F-14C | 1 A | R603 | 0107182 | 1.8k Ω | 1 B |
| D613 | 0311200 | F-14C | 1 A | R604 | 0107562 | 5.6k Ω | 1 B |
| D614 | 0310940 | F-14A | 1 A | R605 | 0107470 | 47 Ω | 1 B |
| D615 | 0310940 | F-14A | 1 A | R606 | 0107822 | 8.2k Ω | 1 B |
| D616 | 0310940 | F-14A | 1 A | R607 | 0106332 | 3.3k Ω 1/4W C.R. (E.L.R) | 1 B |
| D617 | 0310940 | F-14A | 1 A | R608 | 0107332 | 3.3k Ω | 1/4W C.R. |
| D620 | 0311160 | 1S2473D | 2 A | R609 | 0107332 | 3.3k Ω | 1 B |
| D621 | 0311160 | 1S2473D | 2 A | R610 | 0103181 | 180 Ω 1/2W C.R. | 2 B |
| D622 | 0311160 | 1S2473D | 2 A | R611 | 0107332 | 3.3k Ω | 2 B |
| D623 | 0311160 | 1S2473D | 2 A | R612 | 0107123 | 12k Ω | 1, 2 B |
| D624 | 0311160 | 1S2473D | 2 A | R613 | 0107102 | 1k Ω | 2 B |
| D625 | 0311160 | 1S2473D | 2 A | R614 | 0107223 | 22k Ω | 1, 2 B |
| VR601 | 1031440 | 1k Ω (B) | Semi-Variable Resistor | R615 | 0107470 | 47 Ω | 2 B |
| VR602 | 1031470 | 47k Ω (B) | | R616 | 0107123 | 12k Ω | 1 B |
| C01 | 0601108 | 0.1 μ F | | R617 | 0103331 | 330 Ω 1/2W C.R. | 2 B |
| C02 | 0601108 | 0.1 μ F | | R618 | 0104471 | 470 Ω 1W C.R. | 1, 2 B |
| C03 | 0601108 | 0.1 μ F | 50V M.C. | R619 | 0107479 | 47 Ω | 1, 2 A |
| C04 | 0601108 | 0.1 μ F | | R620 | 0107100 | 10 Ω | 1/4W C.R. |
| C601 | 0515221 | 220 μ F | 50V E.C. | R621 | 0106479 | 4.7 Ω | 2 A |
| C602 | 0515101 | 100 μ F | | R622 | 0106102 | 1k Ω | 1/4W C.R. (E.L.R) |
| C603 | 0657103 | 0.01 μ F | 50V C.C. | R623 | 0107124 | 120k Ω 1/4W C.R. | 2 A |
| C604 | 0511470 | 47 μ F | 10V E.C. | R624 | 0106154 | 150k Ω | 2 A |
| C605 | 0660181 | 180pF | 50V C.C. | R625 | 0106394 | 390k Ω | 1/4W C.R. (E.L.R) |
| C606 | 0513330 | 33 μ F | 25V E.C. | R626 | 0106474 | 470k Ω | 2 A |
| C607 | 0515470 | 47 μ F | 50V E.C. | F601 | 0430830 | | 1 A |
| C608 | 0513470 | 47 μ F | 25V E.C. | F602 | 0430830 | | 1 A |
| C609 | 0519903 | 100 μ F | 80V E.C. | F603 | 0430830 | 1A 250V AC Miniature Fuse | 1 A |
| C610 | 0519903 | 100 μ F | | F604 | 0430830 | | 1 A |
| C611 | 0657103 | 0.01 μ F | 50V C.C. | F605 | 0430830 | | 1 A |
| C612 | 0660181 | 180pF | | 2410620 | 4P Connector | | |
| C613 | 0515330 | 33 μ F | 50V E.C. | 2410640 | 6P Connector | | |
| C614 | 0515470 | 47 μ F | | | | | |
| C615 | 0511470 | 47 μ F | 10V E.C. | | | | |
| C616 | 0515470 | 47 μ F | 50V E.C. | | | | |
| C617 | 0512100 | 10 μ F | 16V E.C. | | | | |
| C618 | 0515100 | 10 μ F | 50V E.C. | | | | |
| | | | 1, 2 A | | | | |

4-14. F-2409 Equalizer Circuit Board

(Stock No. 7550670 Complete Circuit Board F-2409)

Conductor Side (QA-5000)



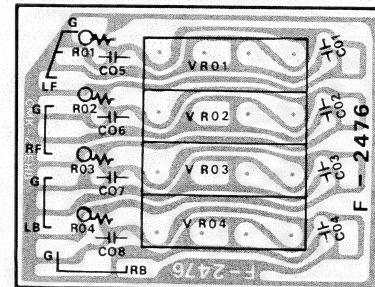
Parts List

| Parts No. | Stock No. | Description | | |
|-----------|-----------|------------------------|-----------|--------------|
| IC01, 02 | 0360190 | BA312 | IC | |
| C01, 02 | 0519105 | 2.2 μ F | 50V (BRN) | E.C. |
| C03, 04 | 0511330 | 33 μ F | 10V | E.C. |
| C05, 06 | 0515499 | 4.7 μ F | 50V (BRN) | E.C. |
| C07, 08 | 0660101 | 100pF | 50V | C.C. |
| C09, 10 | 0600227 | 0.022 μ F | 50V | M.C. |
| C11, 12 | 0600566 | 0.0056 μ F | | |
| C13, 14 | 0660151 | 150pF | | C.C. |
| C15, 16 | 0660101 | 100pF | | |
| C601 | 0514101 | 100 μ F | | E.C. |
| C705, 706 | 0657473 | 0.047 μ F | | C.C. |
| R01, 02 | 0106222 | 2.2k Ω | | |
| R03, 04 | 0106104 | 100k Ω | 1/4W | C.R. (E.L.R) |
| R05, 06 | 0107104 | 100k Ω | | |
| R07, 08 | 0107474 | 470k Ω | 1/4W | C.R. |
| R09, 10 | 0106104 | 100k Ω | | |
| R11, 12 | 0106123 | 12k Ω | | |
| R13, 14 | 0106124 | 120k Ω | 1/4W | C.R. (E.L.R) |
| R15, 16 | 0106221 | 220 Ω | | |
| R601 | 0107221 | 220 Ω | 1/4W | C.R. |
| S02-05 | 1130140 | Push Switch (Selector) | | |

4-15. F-2476 Control Circuit Board

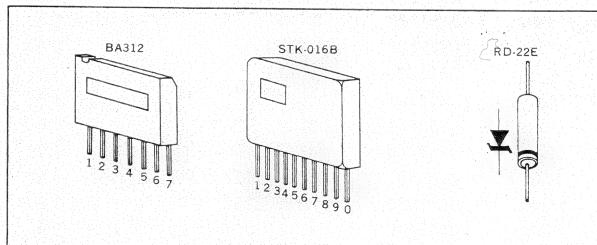
(Stock No. 7592350 Complete Circuit Board F-2476)

Conductor Side (QA-5000)



Parts List

| Parts No. | Stock No. | Description | |
|-----------|------------|--------------------------|-----------|
| C01, 02 | 0621151 | 150 pF | 50V P.C. |
| | 0621151 | 150 pF | |
| C05, 06 | 0600187 | 0.018 μ F | 50V M.C. |
| | 0600187 | 0.018 μ F | |
| R01, 02 | 0107273 | 27k Ω | 1/4W C.R. |
| | 0107273 | 27k Ω | |
| VR01, 02 | 1060420, 1 | 250k Ω \times 4 | Volume |
| | 1060420, 1 | 250k Ω \times 4 | |

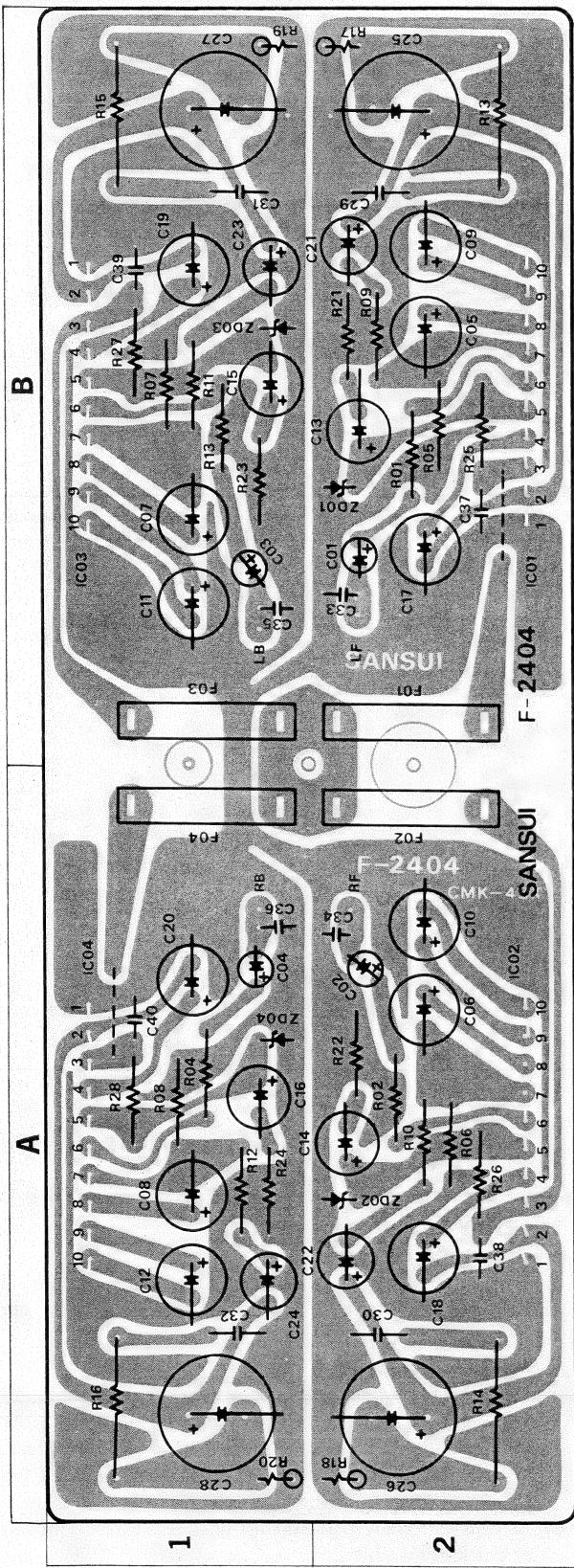


Abbreviations

| | | | |
|-----------------|-----------------------------|-------------------|-----------------------|
| C.R. : | Carbon Resistor | B.P.E.C. : | Bi-Polar Electrolytic |
| S.R. : | Solid Resistor | | Capacitor |
| C.e.R. : | Cement Resistor | C.C. : | Ceramic Capacitor |
| M.R. : | Metallized Film Resistor | Mi.C. : | Mica Capacitor |
| M.C. : | Mylar Capacitor | O.C. : | Oil Capacitor |
| E.C. : | Electrolytic Capacitor | P.C. : | Polystyrene Capacitor |
| | | T.C. : | Tantalum Capacitor |

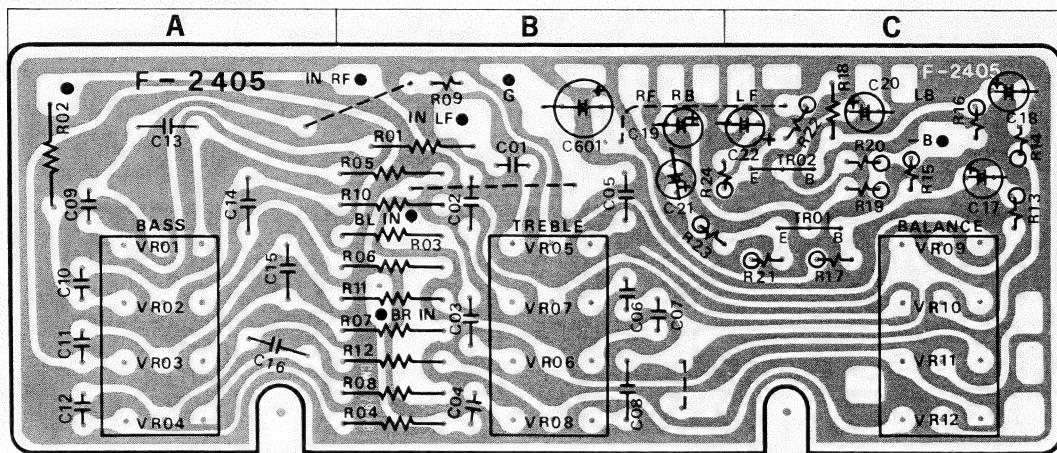
4-16. F-2404 Main Amplifier Circuit Board (Stock No. 7571040 Complete Circuit Board F-2404)
Conductor Side (QA-5000) Parts List

Parts List



| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-----------------|----------|
| IC01, 02 | 0360130 | STK-016B } IC | 2 B .2 A |
| IC03, 04 | 0360130 | STK-016B } | 1 B .1 A |
| ZD01, 02 | 0316490 | RD-22E(B) } | 2 B .2 A |
| ZD03, 04 | 0316490 | RD-22E(B) } | 1 B .1 A |
| C01, 02 | 0515109 | 1 μ F } | 2 B .2 A |
| C03, 04 | 0515109 | 1 μ F } | 1 B .1 A |
| C05, 06 | 0513470 | 47 μ F } | 2 B .2 A |
| C07, 08 | 0513470 | 47 μ F } | 1 B .1 A |
| C09, 10 | 0513470 | 47 μ F } | 2 B .2 A |
| C11, 12 | 0513470 | 47 μ F } | 1 B .1 A |
| C13, 14 | 0513470 | 47 μ F } | 2 B .2 A |
| C15, 16 | 0513470 | 47 μ F } | 1 B .1 A |
| C17, 18 | 0513470 | 47 μ F } | 2 B .2 A |
| C19, 20 | 0513470 | 47 μ F } | 1 B .1 A |
| C21, 22 | 0513470 | 47 μ F } | 2 B .2 A |
| C23, 24 | 0513330 | 33 μ F } | 1 B .1 A |
| C25, 26 | 0513330 | 33 μ F } | 2 B .2 A |
| C27, 28 | 0514102 | 1000 μ F } | 1 B .1 A |
| C29, 30 | 0514102 | 1000 μ F } | 2 B .2 A |
| C31, 32 | 0601477 | 0.047 μ F } | 1 B .1 A |
| C33 | 0601477 | 0.047 μ F } | 2 B |
| C34, 35 | 0660221 | 220 pF } | 2 A .1 B |
| C36, 37 | 0660221 | 220 pF } | 1 A .2 B |
| C38, 39 | 0660473 | 0.047 μ F } | 2 A .1 B |
| C40, 41 | 0660473 | 0.047 μ F } | 1 A |
| R01, 02 | 0107222 | 2.2k Ω } | 2 B .2 A |
| R03, 04 | 0107222 | 2.2k Ω } | 1 A |
| R05, 06 | 0107470 | 47 Ω } | 2 B .2 A |
| R07, 08 | 0107470 | 47 Ω } | 1 B .1 A |
| R09, 10 | 0107182 | 1.8k Ω } | 2 B .2 A |
| R11, 12 | 0107182 | 1.8k Ω } | 1 B .1 A |
| R13, 14 | 0201100 | 10 Ω } | 2 B .2 A |
| R15, 16 | 0201100 | 10 Ω } | 1 B .1 A |
| R17, 18 | 0103471 | 470 Ω } | 2 B .2 A |
| R19, 20 | 0103471 | 470 Ω } | 1 B .1 A |
| R21, 22 | 0107680 | 68 Ω } | 2 B .2 A |
| R23, 24 | 0107680 | 68 Ω } | 1 B .1 A |
| R25, 26 | 0107222 | 2.2k Ω } | 2 B .2 A |
| R27, 28 | 0107222 | 2.2k Ω } | 1 B .1 A |
| F01, 02 | 0433610 | 2A 125V } | 2 B .2 A |
| F03, 04 | 0433610 | 2A 125V } | 1 B .1 A |

4-17. F-2405 Tone Control Circuit Board (Stock No. 7560950 Complete Circuit Board F-2405)
Conductor Side (QA-5000)



Parts List

| Parts No. | Stock No. | Description | Position | Parts No. | Stock No. | Description | Position |
|-----------|------------|--------------------------|----------|-----------|------------|---------------------------|----------|
| TP09, 10 | 0300470, 1 | 2SA726 (F, G) Transistor | | R07, 08 | 0107272 | 2.7kΩ 1/4W C.R. | B |
| C01, 02 | 0600150 | 0.0015μF | B | R09 | 0106103 | 10kΩ 1/4W C.R. (E.L.R) | B |
| C03, 04 | 0600150 | 0.0015μF | B | R10, 11 | 0107103 | 10kΩ } 1/4W C.R. | B |
| C05, 06 | 0600107 | 0.01μF | B | R12 | 0107103 | 10kΩ } 1/4W C.R. | B |
| C07, 08 | 0600107 | 0.01μF | B | R13, 14 | 0106102 | 1kΩ } 1/4W C.R. | C |
| C09, 10 | 0600127 | 0.012μF | A | R15, 16 | 0106224 | 220kΩ } 1/4W C.R. | C |
| C11, 12 | 0600127 | 0.012μF | A | R17, 18 | 0106823 | 82kΩ } 1/4W C.R. | C |
| C13, 14 | 0600108 | 0.1μF | A | R19, 20 | 0106392 | 3.9kΩ } 1/4W C.R. (E.L.R) | C |
| C15, 16 | 0600108 | 0.1μF | A | R21, 22 | 0106392 | 3.9kΩ } 1/4W C.R. | C |
| C17, 18 | 0519101 | 1μF | C | R23, 24 | 0106101 | 100Ω } B. B C | |
| C19, 20 | 0519101 | 1μF | B. C | R601 | 0106822 | 8.2kΩ } B. B C | |
| C21, 22 | 0519101 | 1μF | B. B C | VR01, 02 | 1065040, 1 | 100kΩ (A) × 4 | A |
| C601 | 0513470 | 47μF 25V E.C. | B | VR03, 04 | 1065040, 1 | 100kΩ (A) × 4 | A |
| R01, 02 | 0107183 | 18kΩ } 1/4W C.R. | B. A | VR05, 06 | 1065040, 1 | 100kΩ (A) × 4 | B |
| R03, 04 | 0107183 | 18kΩ } 1/4W C.R. | B | VR07, 08 | 1065040, 1 | 100kΩ (A) × 4 | B |
| R05, 06 | 0107272 | 2.7kΩ 1/4W C.R. | B | VR09, 10 | 1065030, 1 | 250kΩ (M, N) × 4 | C |
| | | | | VR11, 12 | | | C |

Troubleshooting Notices:

- ※When repairing the unit, refer to schematic diagram, block diagram, adjustment.
- ※Each voltage value shown in the schematic diagram is slightly different from an actual measured value. The each value was measured by V.T.V.M. at no input signal.
- ※In order to check the normal conductivity of transistor by volt-ohm meter (V.O.M.), please see the arrow direction showing current flows in Fig. 1.
- 1. Put lead + side of V.O.M. to emitter or collector and lead - side to base of N.P.N. transistor.
- 2. Put lead - side of V.O.M. to emitter or collector and lead + side to base of P.N.P. transistor.

(Terminal -, (+) of V.O.M. is connected with +, (-) side of battery inside).

※On Light Emitted Diode (LED)

The LED used as Pilot Lamp driven by constant current has characteristics of extreme low reverse breakdown voltage (DC

3V) and also it would be easily influenced by discharge voltage from capacitors in power amplifier section.

Therefore, after power switch is turned OFF and lapse of a few seconds, perform the replacement of LED.

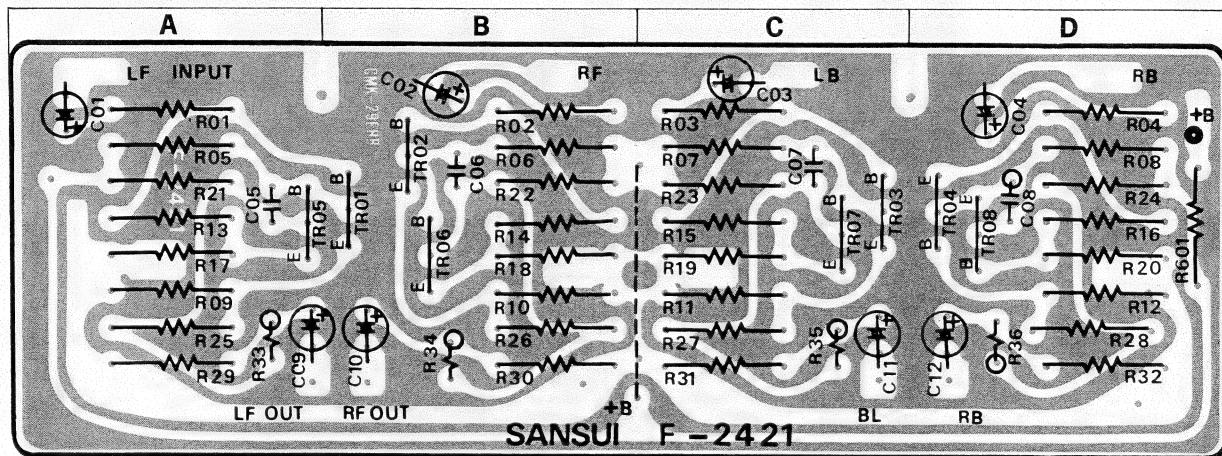
※Notice when replacing LED

Please refer to Fig. 2 when replacing LED, as the polarity of LED does not show on LED and the socket. If reversely connected, it becomes defective.

※Notice when replacing IC

- 1) Do not vent the leads of IC more than 3 times.
- 2) When using a soldering iron, IC should be absolutely isolated from current leakage of the iron. In order to protect IC against break-down, connect a lead wire from the iron to ground (chassis) as shown below. (Fig. 3)
- 3) As IC is extremely weak against heat; use a soldering iron as quick as possible.

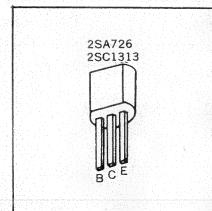
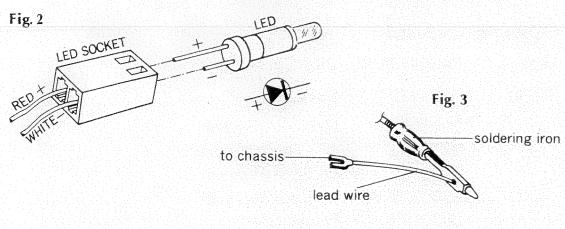
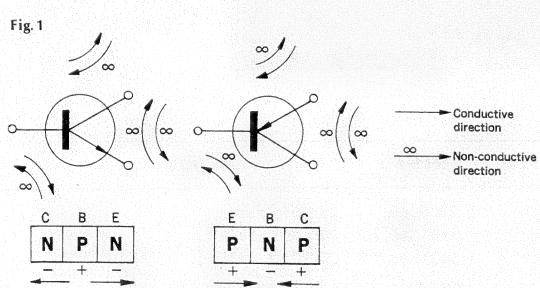
4-18. F-2421 Tone Control Circuit Board (Stock No. 7592340 Complete Circuit Board F-2421)
Conductor Side (QA-5000)



Parts List

| Parts No. | Stock No. | Description | Position |
|-----------|------------|------------------|----------|
| TR01, 02 | 0306070, 1 | 2SC1313(R) (F,G) | B. B |
| TR03, 04 | 0306070, 1 | 2SC1313(R) (F,G) | C. D |
| TR05, 06 | 0306070, 1 | 2SC1313(R) (F,G) | A. B |
| TR07, 08 | 0306070, 1 | 2SC1313(R) (F,G) | C. D |
| C01, 02 | 0519101 | $1\mu F$ | A. B |
| C03, 04 | 0519101 | $1\mu F$ | C. D |
| C05, 06 | 0660220 | 22 pF | A. B |
| C07, 08 | 0660220 | 22 pF | C. D |
| C09, 10 | 0515109 | $1\mu F$ | A, B, C |
| C11, 12 | 0515109 | $1\mu F$ | C. D |
| R01, 02 | 0107222 | $2.2k\Omega$ | A. B |
| R03, 04 | 0107222 | $2.2k\Omega$ | C. D |
| R05, 06 | 0107224 | $220k\Omega$ | A. B |
| R07, 08 | 0107224 | $220k\Omega$ | C. D |

| Parts No. | Stock No. | Description | Position |
|-----------|-----------|-------------------|----------|
| R09, 10 | 0107392 | 3.9kΩ | A. B |
| R11, 12 | 0107392 | 3.9kΩ | C. D |
| R13, 14 | 0107274 | 270kΩ | A. B |
| R15, 16 | 0107274 | 270kΩ | C. D |
| R17, 18 | 0107561 | 560Ω | A. B |
| R19, 20 | 0107561 | 560Ω | C. D |
| R21, 22 | 0107822 | 8.2kΩ | A. B |
| R23, 24 | 0107822 | 8.2kΩ | C. D |
| R25, 26 | 0107104 | 100kΩ | A. B |
| R27, 28 | 0107104 | 100kΩ | C. D |
| R29, 30 | 0107683 | 68kΩ | A. B |
| R31, 32 | 0107683 | 68kΩ | C. D |
| R33, 34 | 0106822 | 8.2kΩ | A. B |
| R35, 36 | 0106822 | 8.2kΩ | C. D |
| R601 | 0107822 | 8.2kΩ | D |
| | | 1/4W C.R. | |
| | | 1/4W C.R. (E.L.R) | |

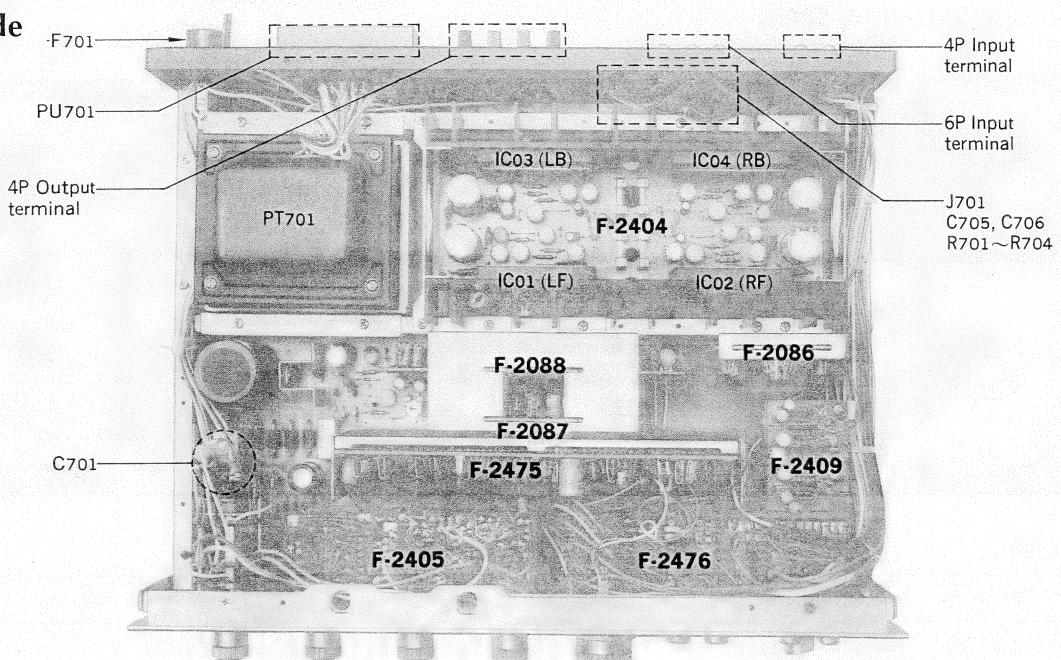


Abbreviations

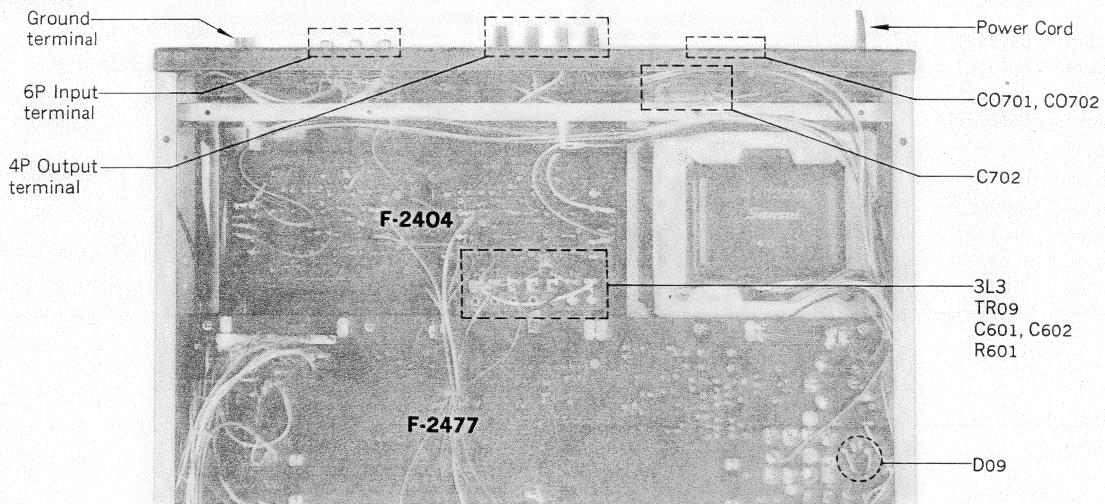
| | | | |
|--------------|-------------------------------|-----------------|-------------------------|
| C.R. | : Carbon Resistor | B.P.E.C. | : Bi-Polar Electrolytic |
| S.R. | : Solid Resistor | C.C. | : Ceramic Capacitor |
| Ce.R. | : Cement Resistor | Mi.C. | : Ceramic Capacitor |
| M.R. | : Metallized Film Resistor | O.C. | : Oil Capacitor |
| M.C. | : Mylar Capacitor | P.C. | : Polystyrene Capacitor |
| E.C. | : Electrolytic Capacitor | T.C. | : Tantalum Capacitor |

4-19. OTHER PARTS (QA-5000)

Top Side



Bottom Side



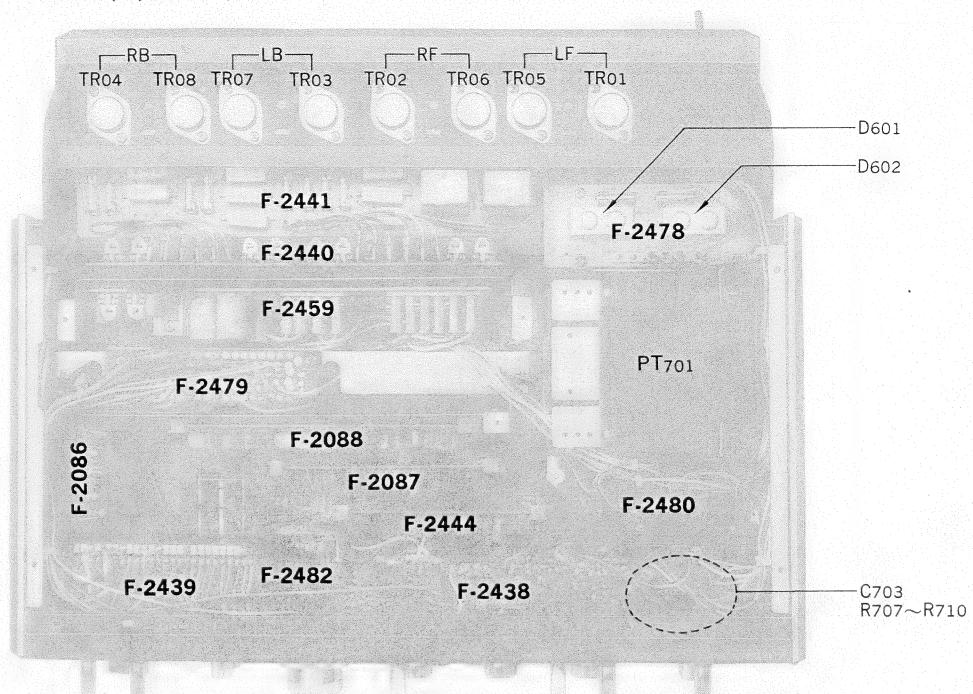
Other Parts List

| Parts No. | Stock No. | Description |
|-----------|------------|--------------------------|
| TR09 | 0306071, 2 | 2SC1313 (F, G) |
| IC01, 02 | 0360130 | STK-016B |
| IC03, 04 | 0360130 | STK-016B |
| D09 | 0310340 | 10D-1 Diode |
| C601 | 0514221 | 220 μ F 35V E.C. |
| C602 | 0515100 | 10 μ F 50V E.C. |
| C701 | 0605107 | 0.01 μ F 250V M.C. |
| C702 | 0605476 | 0.0047 μ F 250V M.C. |
| C703, 706 | 0657473 | 0.047 μ F 50V C.C. |
| R601 | 0107123 | 12k Ω |
| R701, 702 | 0107394 | 390k Ω 1/4W C.R. |
| R703, 704 | 0107104 | 100k Ω |

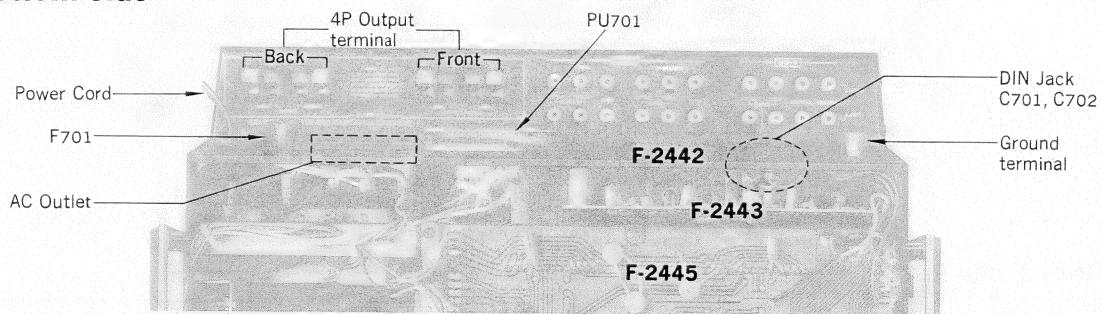
| Parts No. | Stock No. | Description |
|------------|---|--|
| F701 | { 2300060 0431260, 52 0431240, 32 | Fuse Holder 3A (100, 117V) 2A (220, 240V) } Power Fuse |
| PU701 | { 2410830 2410090 | Voltage Selector, Socket Voltage Selector, Plug |
| C0701, 702 | 2450060 | AC Outlet |
| J701 | 2430040 | DIN Connector |
| PT701 | 4002210 | Power Transformer |
| | 2230051 | Ground terminal |
| | 2210200 | 4P Output terminal |
| | 2200330 | 6P Input terminal |
| | 2200320 | 4P Input terminal |
| | 3800020 | Power Cord |

4-20. OTHER PARTS (QA-6000)

Top Side



Bottom Side

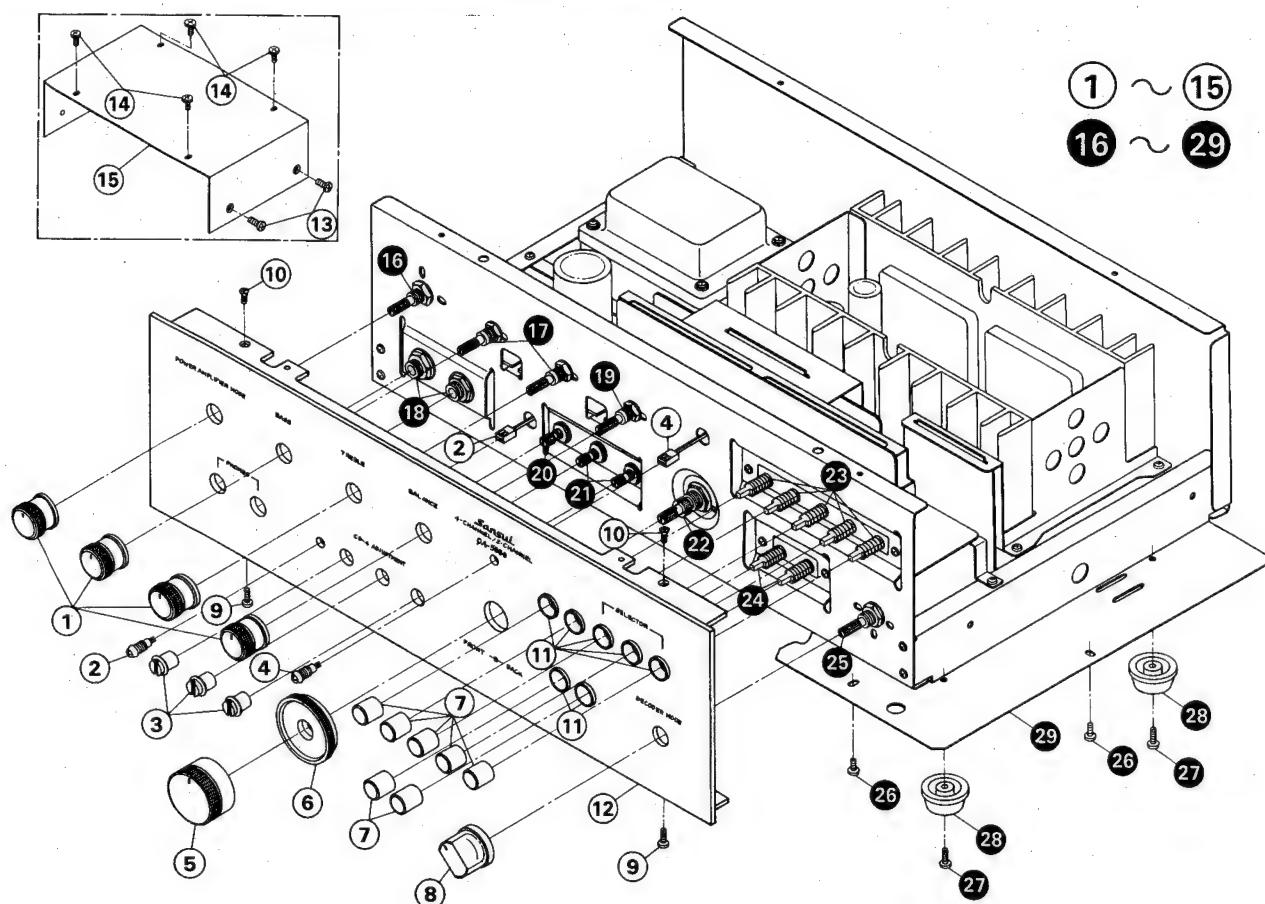


Other Parts List

| Parts No. | Stock No. | Description |
|-----------|------------|-------------------------|
| TR01, 02 | 0306212, 3 | 2SC1619A (O, Y) |
| TR03, 04 | 0306212, 3 | 2SC1619A (O, Y) |
| TR05, 06 | 0300632, 3 | 2SA808A (O, Y) |
| TR07, 08 | 0300632, 3 | 2SA808A (O, Y) |
| D601 | 0311320 | SS-5R } Diode |
| D602 | 0311310 | SS-5S } |
| C701, 702 | 0657473 | 0.047 μ F 50V C.C. |
| C703 | 0659801 | 0.01 μ F 1.4kV C.C. |
| R707, 708 | 0105221 | 220 Ω } 2W C.R. |
| R709, 710 | 0105221 | 220 Ω } |

| Parts No. | Stock No. | Description |
|-----------|--|--|
| F701 | { 02300060 0431270, 2 0431240, 2 | Fuse Holder 4A (100, 117V) 2A (220, 240V) } |
| PU701 | { 2410830 2410090, 1 | Voltage Selector, Socket Voltage Selector, Plug |
| PT701 | 4002200 | Power Transformer |
| | 2230050 | Ground terminal |
| | 2290100 | 4P Output terminal |
| | 2450060 | AC Outlet |
| | 3800020 | Power Cord |
| | 2090040 | DIN Jack |

4-21. OTHER PARTS (Front Side, QA-5000)

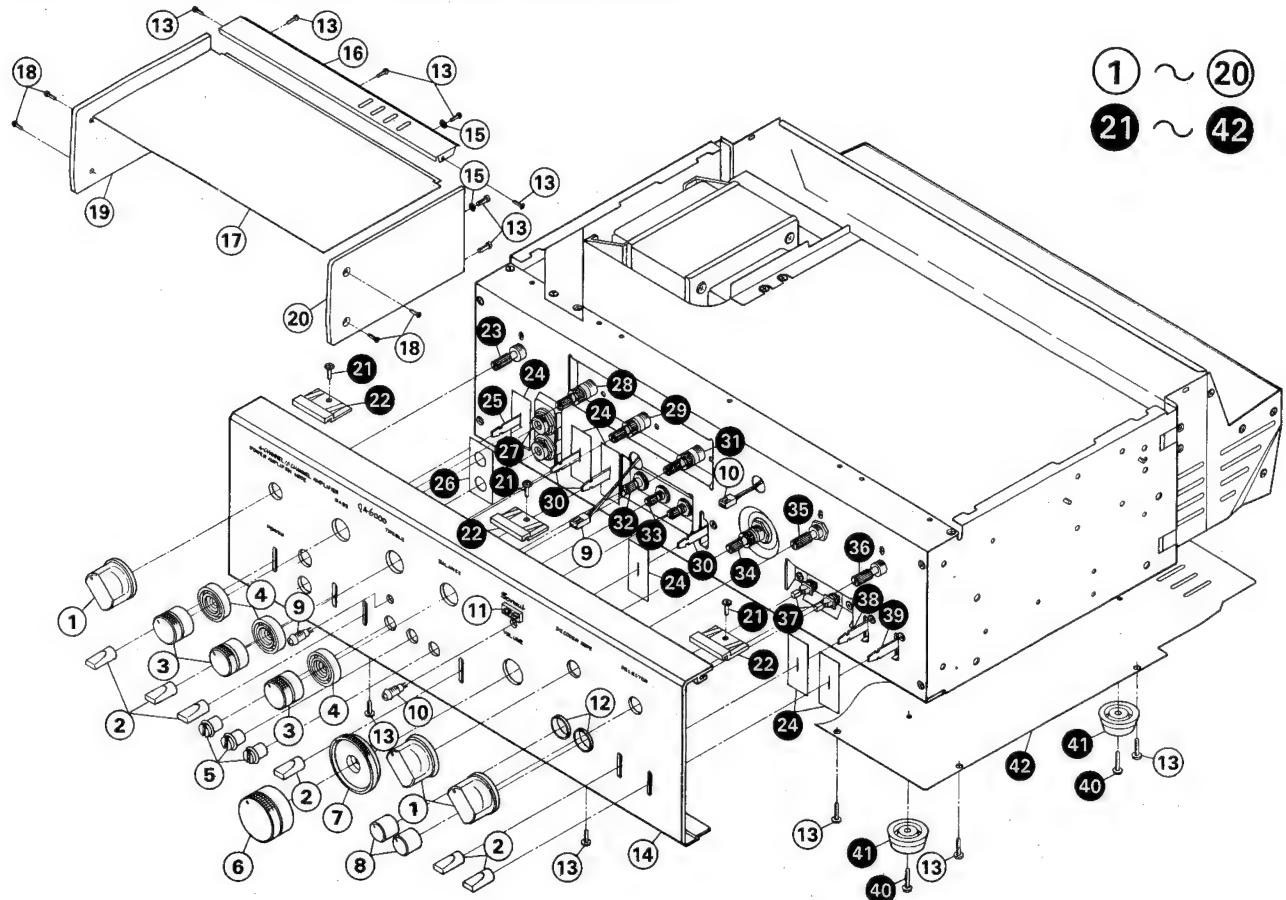


Other Parts List

| Parts No. | Stock No. | Description |
|-----------|------------|--|
| 1 | 5317880 | S-5 Type Knob, power and tone Control volume |
| 2 | 7726100 | Light Emitted Diode Ass'y (c) |
| 3 | 5318030 | CD-4 Adjustment Volume Knob |
| 4 | 7726080 | Light Emitted Diode Ass'y (A) |
| 5 | 5318160 | WIE-1 Type Knob, VOLUME |
| 6 | 5318080 | WO-4 Type Knob, VOLUME |
| 7 | 5326500 | Push Button |
| 8 | 5317900 | T-5 Type Knob, DECODER MODE Switch |
| 9 | 5101143 | Binding Head Screw, M3×6 |
| 10 | 5102843 | Flat Countersunk Head Screw, M3×6 |
| 11 | 5396190 | Knob Ring |
| 12 | 5309530 | Front Panel |
| 13 | 5101161 | Binding Head Screw, M4×6 |
| 14 | 5109222 | Binding Head Tapping Screw, M3×8 |
| 15 | 5006390 | Bonnet |
| 16 | 1103510, 1 | Rotary Switch Y-3-11-3 |
| 17 | 1065040, 1 | 100kΩ (C)×4 BASS, TREBLE Volume |
| 18 | 2430240 | Headphone Jack |
| 19 | 1065030, 1 | 250kΩ (B)×4 BALANCE Volume |
| 20 | 1015100, 1 | 10kΩ (B)×2 CARRIER LEVEL Volume |
| 21 | 1005150, 1 | 50kΩ (C) SEPARATION Volume |

| Parts No. | Stock No. | Description |
|-----------|------------|--|
| 22 | 1060420, 1 | 250kΩ (A)×4 VOLUME |
| 23 | 1131040 | Push Switch (5 Stage) |
| 24 | 1131030 | Push Switch (2 Stage) |
| 25 | 1106140 | Rotary Switch SRE-6-22-5, DECODER MODE |
| 26 | 5109222 | Binding Head Tapping Screw, M3×8 |
| 27 | 5166520 | Washer Head Tapping Screw, M3×12 |
| 28 | 5516940 | Foot |
| 29 | 5058320 | Bottom Plate |

4-22. OTHER PARTS, (Front Side QA-6000)

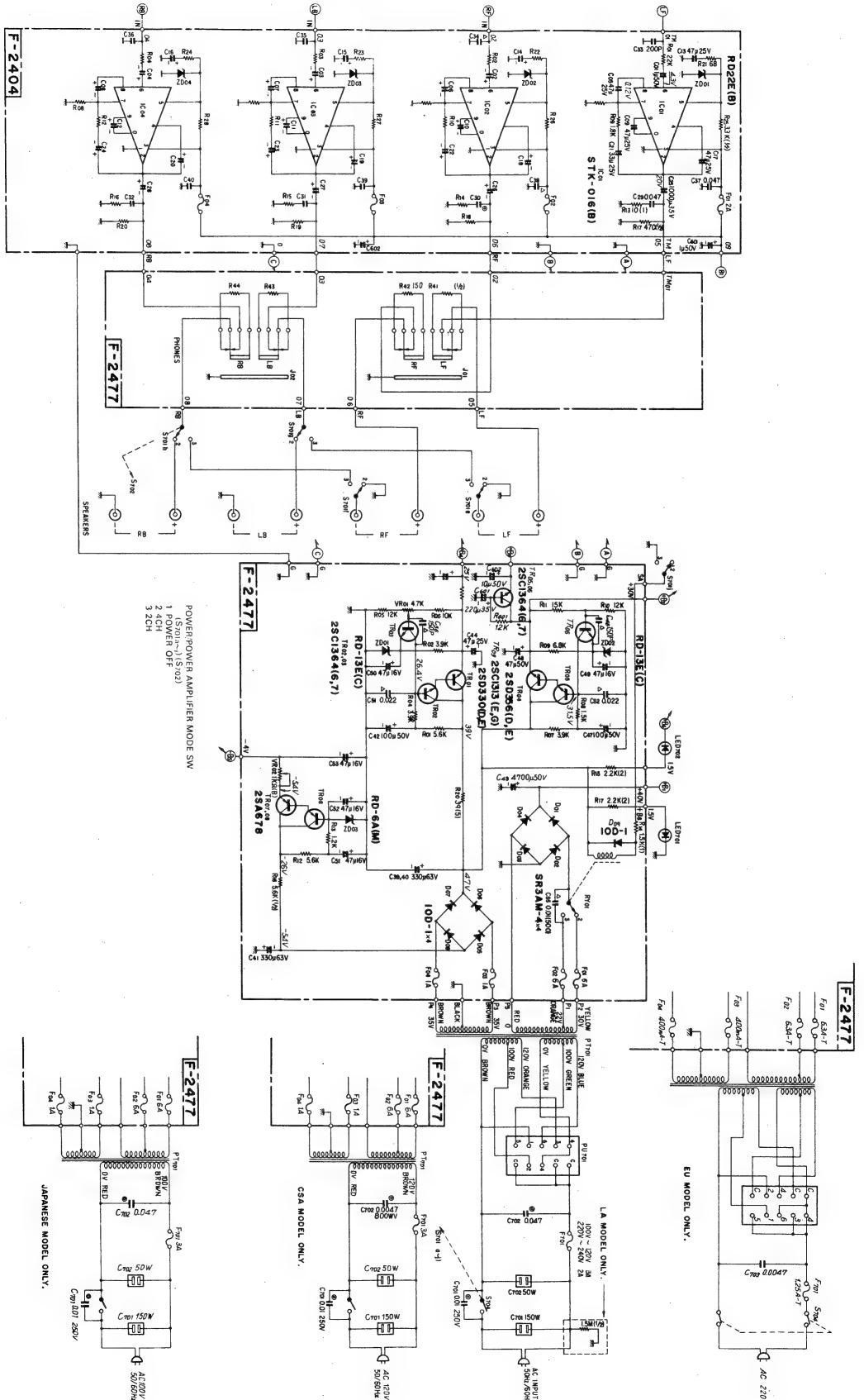


Other Parts List

| Parts No. | Stock No. | Description | Parts No. | Stock No. | Description |
|-----------|-----------|-------------------------------------|-----------|------------|---|
| 1 | 5318041 | S-5 Type Knob, rotary switch | 23 | 1102620, 1 | Rotary Switch SRE-2-9-2 |
| 2 | 5326460 | E-1 Type Knob, lever switch | 24 | 5047470 | Masking (Lever Switch) |
| 3 | 5317990 | WI-5 Type Knob, tone control volume | 25 | 1170330 | Lever Switch, POWER |
| 4 | 5318020 | WO-5 Type Knob, tone control volume | 26 | 5040190 | Masking, headphone jack |
| 5 | 5318030 | Knob, CD-4 ADJUSTMENT volume | 27 | 2430170 | Headphone Jack |
| 6 | 5318080 | U-5 Type Knob, VOLUME | 28 | 1060430, 1 | 100kΩ(B)×4 BASS Volume |
| 7 | 5318001 | WO-3 Type Knob, VOLUME | 29 | 1060430, 1 | 100kΩ(B)×4 TREBLE Volume |
| 8 | 5326500 | Push Button | 30 | 1170370 | Lever Switch |
| 9 | 7726100 | Light Emitted Diode Ass'y (C) | 31 | 1060350, 1 | 250kΩ(MN)×4 BALANCE Volume |
| 10 | 7726080 | Light Emitted Diode Ass'y (A) | 32 | 1015100, 1 | 10kΩ(B)×2 CARRIER LEVEL Volume |
| 11 | 5336431 | Badge, QS mark | 33 | 1005150, 1 | 50kΩ(C) SEPARATION Volume |
| 12 | 5396190 | Knob Ring | 34 | 1060420, 1 | 250kΩ(B)×4 VOLUME |
| 13 | 5109222 | Binding Head Tapping Screw, M3×8 | 35 | 1106140, 1 | Rotary Switch SRE-6-22-5 (DECODER MODE) |
| 14 | 5309510 | Front Panel | 36 | 1102610, 1 | Rotary Switch SRE-2-5-3 (SELECTOR) |
| 15 | 5122540 | Toothed Lock Washer (External) 3φ | 37 | 1131030 | Push Switch (2 Stage) |
| 16 | 5006370 | Sub Bonnet | 38 | 1170370 | Lever Switch SX-15-8 |
| 17 | 5006380 | Bonnet | 39 | 1170350 | Lever Switch SX-15-6 |
| 18 | 5101161 | Binding Head Screw, M4×6 | 40 | 5166520 | Washer Head Tapping Screw, M3×12 |
| 19 | 5269810 | Side Panel (Left) | 41 | 5516940 | Foot |
| 20 | 5269821 | Side Panel (Right) | 42 | 5058310 | Bottom Plate |
| 21 | 5109122 | Binding Head Screw, M3×8 | | | |
| 22 | 5269880 | Stopper (Front Panel) | | | |

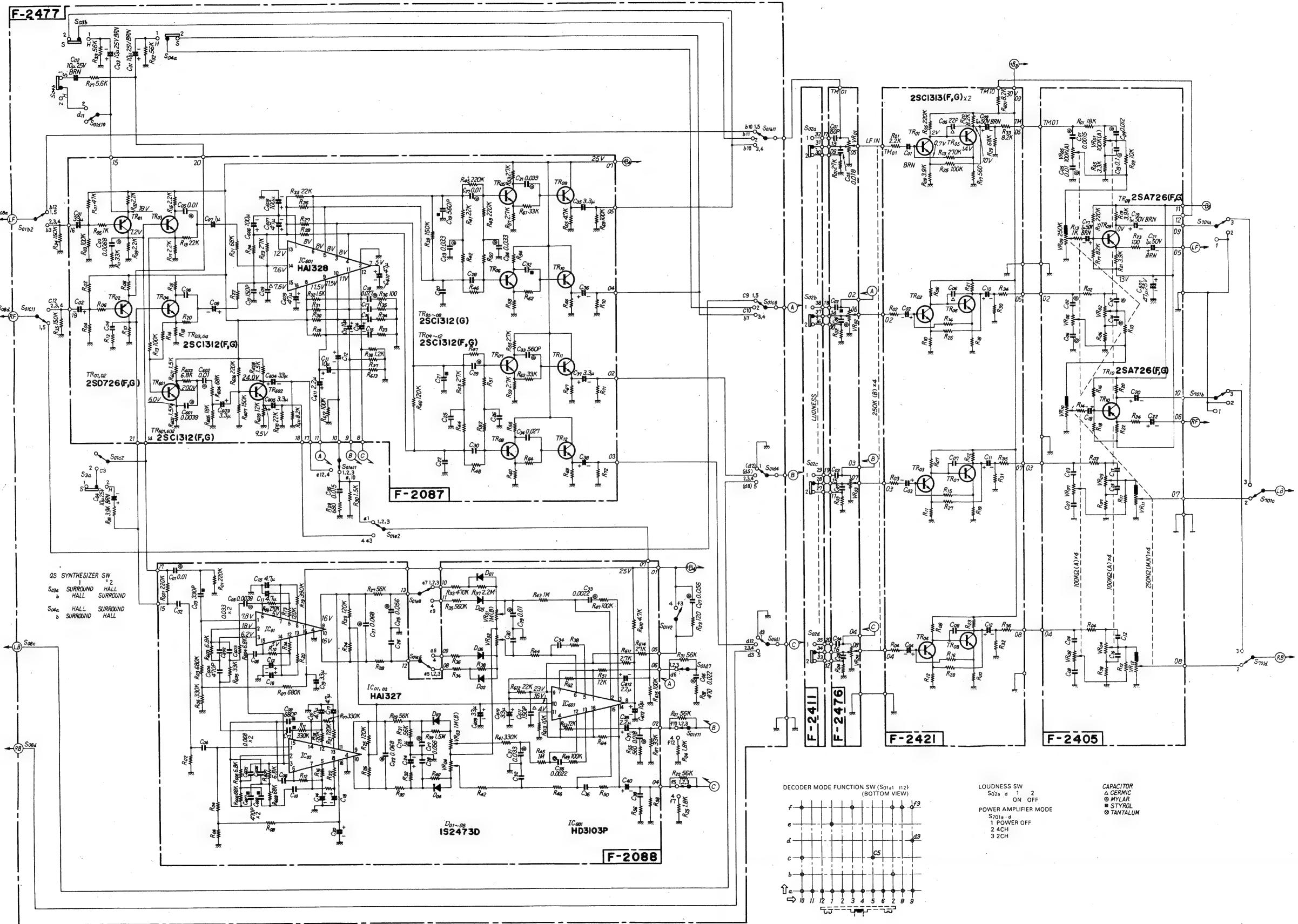
5. SCHEMATIC DIAGRAM

5-1. <QA-5000 Main & Power Supply Section>

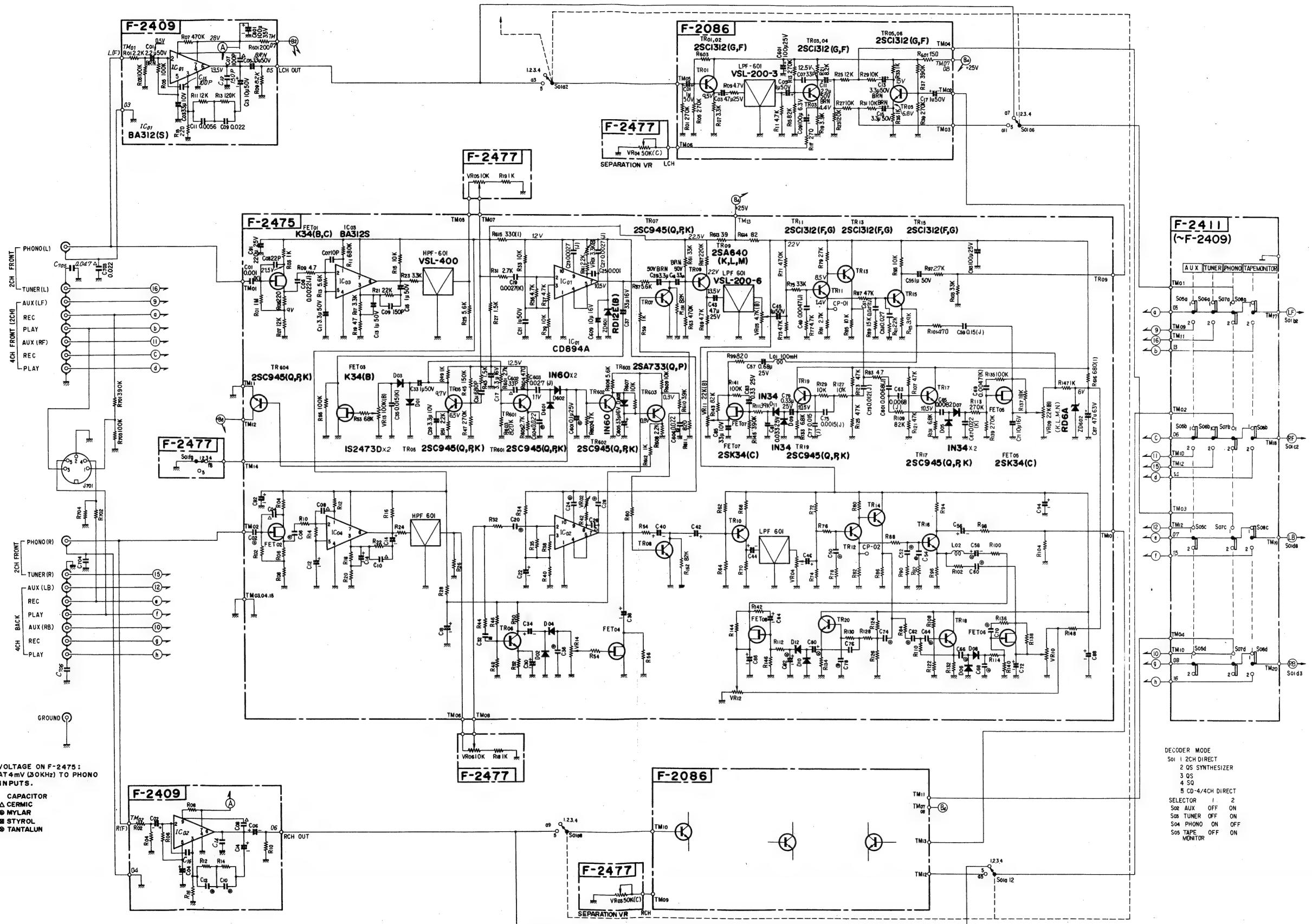


〈QA-5000 Vario-matrix & Tone Control Section〉

* Design and specifications subject to change without notice for improvements.

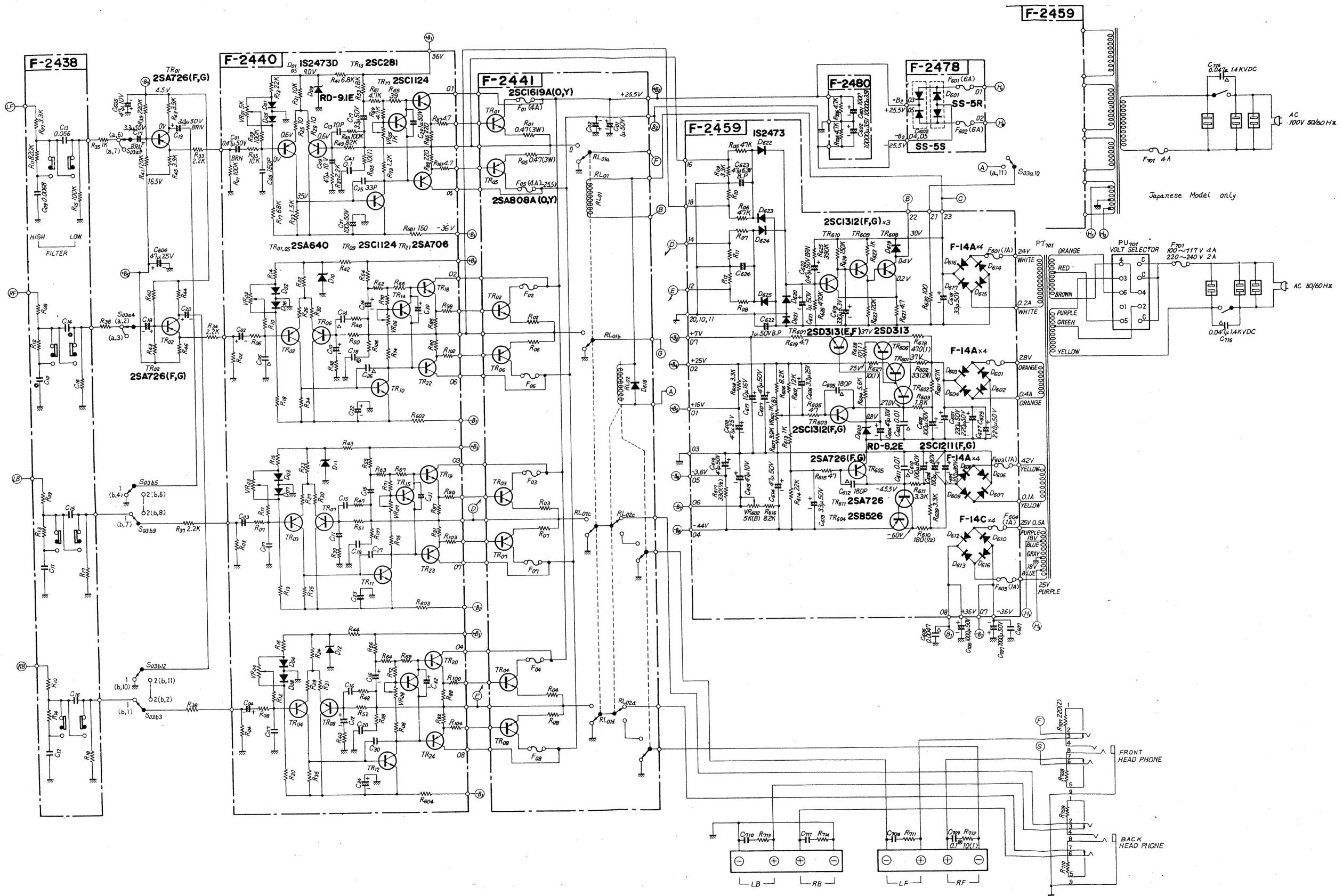


QA-5000 CD-4 Section

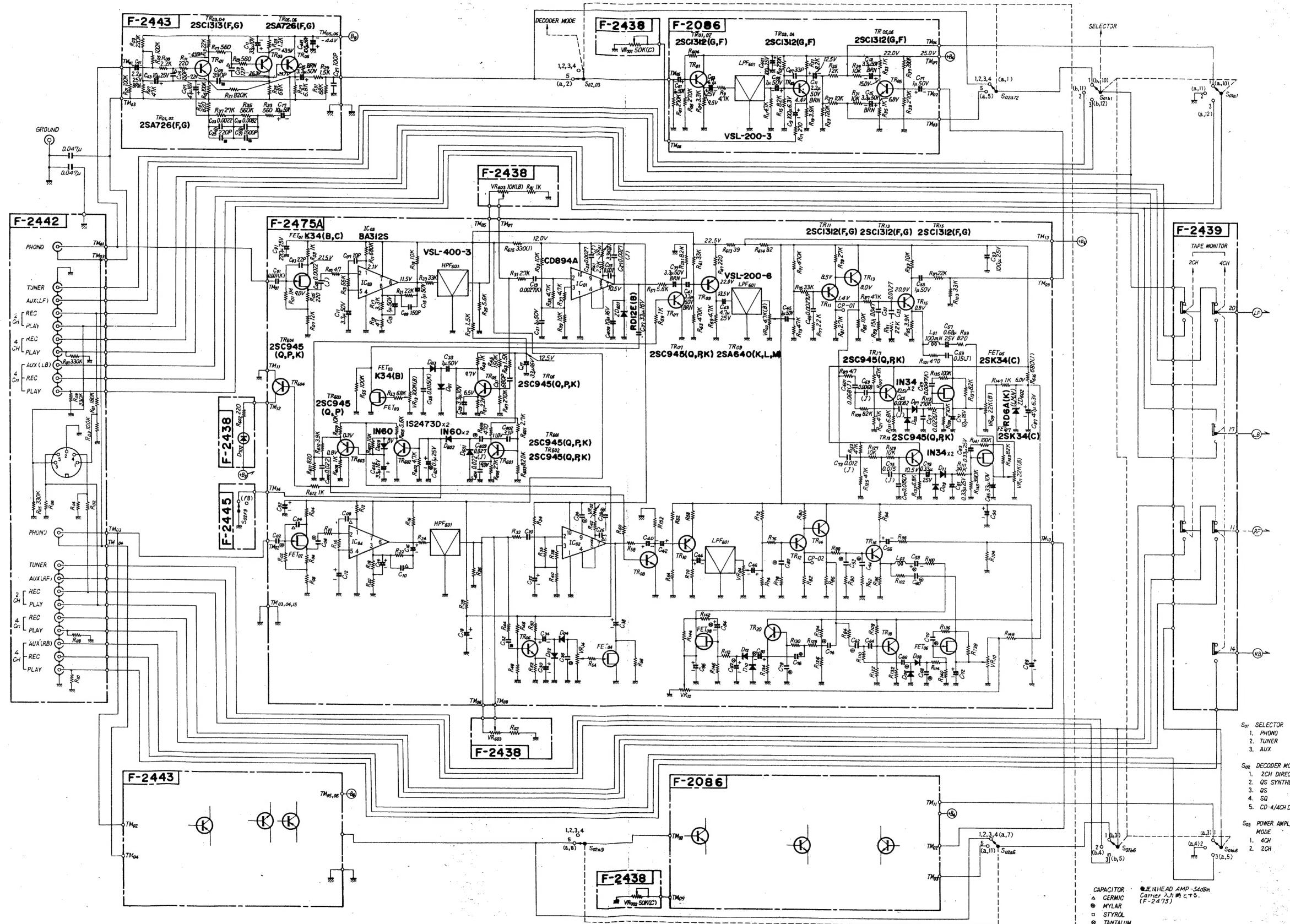


5-2. QA-6000 Main & Power Supply Section

* Design and specifications subject to change without notice for improvements.

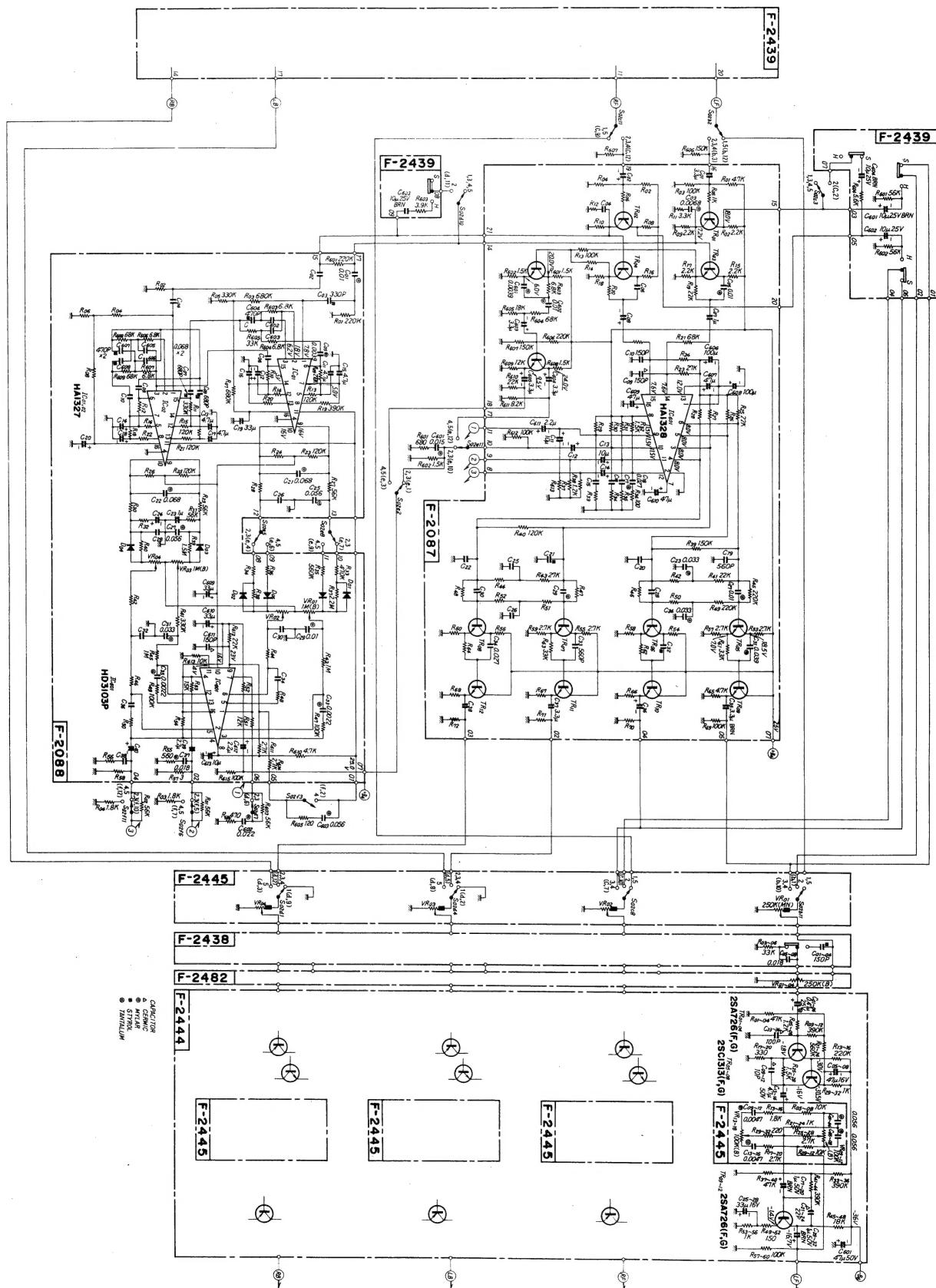


QA-6000 CD-4 Section



〈QA-6000 Vario-matrix & Tone Control Section〉

* Design and specifications subject to change without notice for improvements.



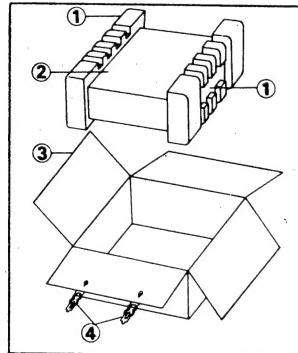
6. PACKING LIST

6-1. QA-5000

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------------|
| 1 | 9027820 | Stylofoam Packing |
| 2 | 9116153 | Vinyl Cover |
| 3 | 9008140 | Carton Case |
| 4 | 5996080 | Curl Stopper |

6-2. QA-6000

| Parts No. | Stock No. | Description |
|-----------|-----------|-------------------|
| 1 | 9027860 | Stylofoam Packing |
| 2 | 9116143 | Vinyl Cover |
| 3 | 9008220 | Carton Case |
| 4 | 5996080 | Curl Stopper |



7. ACCESSORY PARTS LIST

7-1. QA-5000

| Stock No. | Description |
|-----------|------------------------------|
| 0433610 | Quick Acting Fuse |
| 9208500 | Operating Instructions |
| 9228500 | Operating Instructions Sheet |
| 9416010 | CD-4 Adjustment Record |

7-2. QA-6000

| Stock No. | Description |
|-----------|-----------------------------|
| 0433630 | 4A 250V Quick Acting Fuse |
| 5066250 | Pin Jack Cover |
| 9208480 | Operating Instructions |
| 9228480 | Operating Instruction Sheet |
| 9416010 | CD-4 Adjustment Record |

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